

DOCUMENT RESUME

ED 052 750

24

HE 002 434

AUTHOR Gulko, Warren W.
 TITLE Program Classification Structure. Preliminary Edition for Review. WICHE Management Information Systems Program.
 INSTITUTION Western Interstate Commission for Higher Education, Boulder, Colo.
 REPORT NO TR-13
 BUREAU NO BR-8-0708
 PUB DATE Jun 70
 CONTRACT OEC-0-8-980708-4533(010)
 NOTE 166p.
 AVAILABLE FROM Western Interstate Commission for Higher Education, P.O. Drawer P., Boulder, Colorado 80302

EDRS PRICE MF-\$0.65 HC-\$6.58
 DESCRIPTORS Classification, Higher Education, *Information Systems, *Management Systems, Program Development, *Resource Allocations, *Systems Development, *Taxonomy

IDENTIFIERS WICHE Management Information Systems, *WICHE MIS

ABSTRACT

The primary mission of the WICHE Management Informations Systems Program is to help colleges and universities develop improved management systems and methods of resource allocation. A related aim is to develop procedures which facilitate exchange of comparable data among institutions. A necessary part of such exchanges will be a standard taxonomy or uniform classification system which identifies and categorizes activities and programs of institutions. Together with the WICHE MIS Data Element Dictionaries, the Program Classification Structure provides the basis for developing a common language. Section I discusses the Structure's rationale and relation to various analytical methods. Section II defines the Structure's levels and proposed coding scheme. Sections III and IV provide a detailed description and listing of proposed programs. "This preliminary edition is published and distributed in order to solicit comments and criticism from the entire higher education community." (JS)

BR-8-0708
PA-24

PROGRAM CLASSIFICATION STRUCTURE

ED052750

... Preliminary Edition for Review

PROGRAM CLASSIFICATION STRUCTURE: Preliminary Edition

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRO-
DUCED EXACTLY AS RECEIVED FROM
THE PERSON OR ORGANIZATION ORIG-
INATING IT. POINTS OF VIEW OR OPIN-
IONS STATED DO NOT NECESSARILY
REPRESENT OFFICIAL OFFICE OF EDU-
CATION POSITION OR POLICY.

TECHNICAL REPORT 13



Planning and Management Systems Division
Western Interstate Commission for Higher Education

HE 002 434



Executive Director: WICHE
Robert H. Kroepsch

Associate Director, WICHE, and
Director, Planning and Management
Systems Division:
Ben Lawrence

Program Director for Development and
Applications Unit:
Warren W. Gulko

Program Director for Training Unit:
Robert Huff

Program Associate for Information Systems:
Charles R. Thomas

The Western Interstate Commission for Higher Education (WICHE) is a public agency through which the 13 western states work together

- . . . to increase educational opportunities for westerners.
- . . . to expand the supply of specialized manpower in the West.
- . . . to help universities and colleges improve both their programs and their management.
- . . . to inform the public about the needs of higher education.

The program of the WICHE Planning and Management Systems Division was proposed by state coordinating agencies and colleges and universities in the West to be under the aegis of the Western Interstate Commission for Higher Education. The Planning and Management Systems Division program proposes in summary:

To design, develop, and encourage the implementation of management information systems and data bases including common data elements in institutions and agencies of higher education that will:

- provide improved information to higher education administration at all levels.
- facilitate exchange of comparable data among institutions.
- facilitate reporting of comparable information at the state and national levels.

This publication is in the public domain in accordance with the U.S. Office of Education Contract No. OEC 0-8-980708-4533 (010).

ED052750

WICHE MANAGEMENT INFORMATION SYSTEMS PROGRAM

PROGRAM CLASSIFICATION STRUCTURE

Preliminary Edition for Review

Prepared By

Warren W. Gulko

The WICHE Management Information Systems Program is supported by the U. S. Office of Education, National Center for Educational Research and Development, Division of Higher Education Research.

PLANNING AND MANAGEMENT SYSTEMS DIVISION
Western Interstate Commission for Higher Education
P. O. Drawer P Boulder, Colorado 80302

June 1970

PREFACE

The primary mission of the WICHE Management Information Systems Program is to assist colleges and universities with the development of improved resource allocation and management systems. A related objective of the program is the development of procedures which facilitate the exchange of comparable data between institutions. A necessary part of such data exchange procedures will be a standard taxonomy or uniform classification system which identifies and categorizes the activities and programs of higher education institutions.

The following pages present the preliminary edition of the WICHE MIS "Program Classification Structure." The Program Classification Structure has been developed by the WICHE MIS Staff and the Analytical Task Force in conjunction with various representatives of the WICHE MIS participating agencies and institutions. This preliminary edition is published and distributed in order to solicit comments and criticisms from the entire higher education community.

In order for the Program Classification Structure to become a useful aid in structuring data for planning and analyzing higher education programs, it must reflect the requirements of the academic community. It is necessary that the WICHE MIS Staff receive critical feedback from all interested agencies and institutions. We urge all of those concerned with the future of higher education to review this document and forward their comments, criticisms, and suggestions directly to the author or members of the staff.

Ben Lawrence, Director
Planning and Management
Systems Division

June, 1970

TABLE OF CONTENTS

	Page
Section I	THE PROGRAM CLASSIFICATION STRUCTURE - AN OVERVIEW
	Introduction 1-1
	Role of the Program Classification Structure . . . 1-2
	Program Budgeting. 1-3
	Cost/Benefit Analysis. 1-6
	Analytical Models. 1-8
	Cost Exchange Procedures 1-12
	Unit Costs of Instruction. 1-14
	Rationale of the Structure 1-24
	Primary and Support Program 1-28
	Instruction 1-30
	Organized Research 1-30
	Public Service 1-31
	Academic Support 1-32
	Student Service. 1-33
	Institutional Support. 1-34
	Independent Operations 1-34
Section II	THE PROGRAM STRUCTURE
	Introduction 2-1
	Campus 2-3
	Primary and Support Programs 2-4
	Program. 2-4
	Subprogram 2-4
	Program Category 2-5
	Program Sector 2-5
	Program Subsector. 2-6
	Program Element. 2-7
	Component Measures 2-8
	Coding 2-9
	Organization of the Structure. 2-12
Section III	THE PRIMARY PROGRAMS
	1.0 Instruction 3-1
	2.0 Organized Research. 3-8
	3.0 Public Service. 3-13
Section IV	THE SUPPORT PROGRAMS
	4.0 Academic Support. 4-1
	5.0 Student Service 4-10
	6.0 Institutional Support 4-21
	7.0 Independent Operations. 4-32
Section V	GLOSSARY OF TERMS 5-1
Appendix I	PCS Program Categories. A-1
Appendix II	HEGIS Discipline Sectors. A-3
Appendix III	PCS Program Sectors (Excluding HEGIS) A-26
Appendix IV	Sample Crosswalk A-31
Appendix V	References. A-41

LIST OF ILLUSTRATIONS

		Page
Figure 1.1	Example of a Discipline Instruction Cost Matrix	1-17
Figure 1.2	Example of a Discipline Instruction Unit Cost Matrix.	1-18
Figure 1.3	Example of a Credit Distribution Matrix	1-21
Figure 1.4	Example of an Induced Course-Load Matrix.	1-22
Figure 1.5	Crossover from Accounts to Program Elements.	1-25
Figure 2.1	Program Classification Structure Nomenclature.	2-2
Figure 2.2	Sixteen Character Coding Structure.	2-9
Figure 2.3	Organization of the Program Classification Structure	2-13

ACKNOWLEDGMENTS

The development of the Program Classification Structure over the past year represents the efforts of many individuals. In particular, we are indebted to the members of the Analytical Task Force who have generously contributed their time and efforts to this project:

Professor Robert F. Adams
University of California,
Santa Cruz

Mr. Gordon D. Osborn
State University of New York

Mr. James Farmer
The California State
Colleges

Mr. Garland P. Peed
California State Center
Junior College District

Mr. John E. Keller
University of California

Mr. James F. Ryan
University of Washington

Dr. Thomas R. Mason
University of Colorado

Dr. Martin Zeigler
University of Illinois

Mr. M. Charles McIntyre
California Coordinating
Council for Higher Education

Also contributing to the development of the Program Classification Structure were: Mr. John Bartram, University of Colorado; Mr. Roger Sisson, Mathematica; Dr. Robert Wallhaus, University of Illinois; Dr. George Weathersby, University of California, and various participants at the WICHE MIS Training Seminars. In addition, the staff of the WICHE Management Information Systems Program -- Mrs. Nancy Eklund, Dr. Robert Huff, Mr. Dennis Jones, Dr. Ben Lawrence, Mr. Leonard Romney, Mr. Charles Thomas, and Mr. Michael Young -- have all spent many long hours in discussions regarding this document and each has contributed to its development. We are particularly obliged to Bob Huff for his work in developing the HEGIS Taxonomy; to Mrs. Virginia Patterson, WICHE, for her editorial assistance; and to Mr. Leon Robertson, University of Utah, for his contribution as a Ford Foundation Visiting Professional.

Program Classification Structure

SECTION I

**THE PROGRAM CLASSIFICATION STRUCTURE—
AN OVERVIEW**

Western Interstate Commission for Higher Education
Management Information Systems (MIS) Program

SECTION I: PROGRAM CLASSIFICATION STRUCTURE - AN OVERVIEW

Introduction

The Program Classification Structure has been developed to provide a consistent means of identifying and organizing the activities of higher education in a program-oriented manner. It should be viewed as the basis for subsequent WICHE MIS projects in that the Program Classification Structure provides a standard framework for arraying the broad range of institutional data. The Program Classification Structure should not be construed as a new chart of accounts, nor is it a specification of a new organization system to be imposed on higher education. Moreover, it is not intended to be a replacement for existing data systems, but has been designed to supplement the institution's own unique data system.

The design of the Program Classification Structure assumes that each institution will develop internal transformation routines to convert data from the institution's record system to the Program Classification Structure format. Together with the WICHE MIS Data Element Dictionaries, the Program Classification Structure provides the basic foundation for developing a common language to facilitate the exchange of management information among the WICHE MIS participating institutions.

The pages following describe this preliminary design. Section I discusses the relation of the Program Classification Structure to various analytical methods and the underlying rationale of the structure. Section II defines the levels of the structure and the proposed coding scheme. Sections III and IV provide a detailed description and listing of the proposed programs.

The Role of the Program Classification Structure

The need for a more complete understanding and analysis of the functions and programs of colleges and universities is increasingly being acknowledged by the academic community.¹ Often, the information required by decision-makers is not readily available under the current mode of operation, and frequently it is difficult to associate costs with major programs that serve the institution's objectives. Standard college and university accounting structures tend to identify line item expenditures with organizational units. They rarely provide the means for aggregating data in relation to institutional program goals and objectives.²

The WICHE MIS participating institutions have recognized that a way must be found to improve planning and analysis by relating resource information to the achievement of institutional objectives. Such information is necessary in order to evaluate the costs and benefits of alternative programs. In many cases, the evaluation of higher education expenditures and benefits will require a comparison of data from similar institutions. The Program Classification Structure has been developed to facilitate this comparison of information by providing a foundation for achieving comparability in the exchange of institutional data.

Although higher education may continue to maintain varied, traditional reporting structures, a means must be developed for viewing academic institutions as a series of goal-oriented activities related to the mission and specific objectives of the institution. A system

which will help sort out and trace the utilization of all resources channeled into the institution will aid management in determining how available resources are utilized by the various activities. By relating expenditures to objectives, management will be better able to evaluate alternatives and consider decisions regarding the allocation of scarce resources.

It is increasingly apparent that the conceptual tools of economics and management science can play a valuable role in the management of colleges and universities. The advent of modern computer technology has made the use of such management tools a reality. In the years ahead, the application of program budgeting, cost/benefit analysis, analytical models, cost exchange procedures, and unit costing will be a commonplace occurrence in higher education. The Program Classification Structure has also been developed to enable the application of these techniques to higher education. The following paragraphs describe the relation of the Program Classification Structure to some of these conceptual tools.

Program Budgeting

Rapid growth in the size and complexity of higher education, coupled with its rapidly rising cost, has been one of the causes of increased public interest in college and university expenditures. Such public concern has highlighted the need for a better understanding of resource allocation processes in higher education.³ Today's college administrator is faced with an array of difficult decisions as he contemplates the increased costs for maintaining existing programs, worries about providing

for an ever-increasing number of students, seeks to improve the quality of education, and attempts to meet the demands for new and expanded services. In addition, the college administrator often must contend with taxpayers' reluctance to provide additional resources without a plausible justification for the increasing costs. Thus, intelligent decision-making in higher education requires more and better information, and academic decision-makers are seeking new techniques to aid in the collection and interpretation of data.⁴ However, very few institutions of higher education can provide their chief administrators with this capability to evaluate the costs of alternative programs and relate these expenditures to some measure of achievement of institutional objectives. Faced with limited resources, increasing demands for services, and an anxious public, administrators are forced into severely constrained decisions -- management by crisis rather than by orderly planning is often the case.

Academic administrators now are seeking to extend the capabilities of the fund accounting system to incorporate techniques which satisfy traditional accounting needs while at the same time support the management decision function.⁵ A major tool to aid the academic manager in making resource allocation decisions is a higher education program budgeting system. Hirsh has suggested that the existing budgeting procedures in higher education are "...so patently uninformative that they effectively conceal most of the needed insight."⁶ While Hirsh may be overstating the case, the interest in Farmer's recent monograph⁷ demonstrates that a large part of the academic community is now looking

to "Planning, Programming, and Budgeting Systems" (PPBS) as a promising method for improving the management of higher education.

A budget, says Williams, is more than an instrument of physical control. "A budget should also lay bare the efficiency (or lack thereof) with which a university is combining its available resources to achieve results that promote the goals and objectives of that university."⁸

Program budgeting is not a new accounting system nor is it a more effective bookkeeping system. It is a system which attempts to "...change the method by which decisions regarding the appropriate allocation of resources come to be made."⁹ A program budget system identifies and organizes the activities of an institution in terms of its objectives, displays the costs of these activities over an extended time frame, and relates these activities and their costs to the outputs associated with the achievement of the institution's objectives. Thus, implementation of a program budget must be based on the identification of specific institutional objectives. Further, the program budgeting approach requires that dollars and other resources be aggregated in relation to output-producing programs as well as organizational units, and that this program output be defined in a measurable fashion.¹⁰

The Program Classification Structure is not, per se, a program budgeting system. There is, however, an obvious relationship between the two: the development of a program structure represents an essential first step toward implementing a program budget system. The structure presented here is but one of many alternative structures that could be used for higher education program budgeting. Although it has been

developed in a generalized manner to accommodate a wide variety of educational institutions, the Program Classification Structure is relatively consistent with the current program budgeting efforts of some of the major institutions of higher education.^a It is hoped, therefore, that the Program Classification Structure is sufficiently flexible to be used without extensive modification by institutions wishing to adopt a program budgeting system. To this end, it is intended that the Program Classification Structure will facilitate the adaptation of program budgeting techniques in the management of higher education.

Cost/Benefit Analysis

One way of stating the purpose of program budgeting is to say that it is intended to "bare the soul" of expenditures over a period of time and to relate these expenditures to program objectives.¹¹ This process necessarily involves consideration of the costs and benefits of various alternatives. Thus, an important part of the budgeting process is the determination of which of the alternative courses of action should be selected and how the normally finite resources are to be distributed among the virtually unlimited number of competing programs. Cost/benefit analysis may be considered as a form of applied economic analysis which attempts to maximize "...the present value of all benefits less that of all costs subject to specified restraints."¹² Keller has defined cost/benefit analysis as "...both an attitude and a set

^ae.g., The University of California, The State University System of Florida, Ohio State University, University of Toronto.

of formal analytic techniques which attempt to relate the costs and benefits of competing programs in a rigorous quantitative fashion so that choices can be made about preferred courses of action."¹³

Cost/benefit analysis in higher education attempts to assist administrators in evaluating the cost of an individual program relative to the expected benefits of that program and other alternative programs. Through such analysis, institutions of higher education should be able to understand more completely the full costs of meeting specified output objectives, to plan in such a manner as to make more efficient use of available resources, and to compete more effectively for additional resources. However, general acceptance of cost/benefit analysis has been slow because of the problems associated with measuring the benefits of higher education. Although many studies have been undertaken,¹⁴ some of which have exhibited a careful and thoughtful approach to the problems, the general application of cost/benefit analysis will remain a theoretical exercise until more is known about measuring and evaluating the outputs or benefits of institutions of higher learning.

The Program Classification Structure may serve as the vehicle for linking resource data to program objectives and thus should contribute significantly to effective analysis of higher education. Although some may argue that program budgeting and cost/benefit analysis are independent,¹⁵ the application of the Program Classification Structure to higher education cost/benefit analysis may prove to be a necessary part of the cost determination. Further, the definition of the benefits of higher education

and more specifically, the determination of specific measurements of these benefits is crucial to the widespread adoption of this form of analysis and is, therefore, a matter of highest priority:

To attain efficiency in higher education requires a comparison of the benefits produced and the cost entailed by higher education decisions. From society's point of view, it is the difference between these two values which must be maximized if resources are to be efficiently allocated. For this reason, discussions of economic efficiency in higher education require a concern with both volume and quality of output (and its measurements) in the cost of higher education institutions...in assessing the efficiency in equity goals, an important problem is in determining both the returns from investment in higher education and the distribution of these returns among the people. The difficulty in assessing these returns inheres in the fact that many of the benefits, as well as the cost of higher education, do not accrue directly to the individual who is being educated. Indirectly, the student's family, as well as the entire society, benefits when a student obtains the higher education.¹⁶

Analytical Models

The imbalance that presently exists between decision requirements and available information is becoming evident as educational resources grow increasingly scarce and the demand for services expands. The development of analytical models to evaluate the current operations and to analyze the future consequences of alternative courses of action will help to alleviate this imbalance.

An analytical model may be defined as a replication of a real or hypothetical system which specifies relationships between the various components of the system. As described by Hillier and Libermann:

Mathematical models have many advantages over a verbal description of the problem. One obvious advantage is that a mathematical model describes a problem much more concisely. This tends to make the overall structure of the problem more comprehensible, and it helps to reveal important cause-and-effect relationships. In this way, it indicates more clearly when additional data are relevant to the analysis. It also facilitates dealing with the problem in its entirety and considering all of its interrelationships simultaneously. Finally, a mathematical model forms a bridge to the use of high-powered mathematical techniques and the use of electronic computers to analyze the problem.¹⁷

Analytical models are an important element in the management of any large-scale enterprise. They are often the only timely means of deriving a set of feasible alternatives for accomplishing some given objective. Thus, models are an integral part of a program budgeting system. Further, the application of modeling in higher education has other benefits. As Keller points out, model building is useful in four ways:

- (1) Development of the model automatically forces a deeper understanding of the interactions within the system under study; unsuspected attributes and linkages are discovered and new insights into the real nature of the problem are fostered.
- (2) Models permit the evaluation of a wide range of alternatives--surely a key feature of cost/benefit analysis. And, within a given alternative, they help trace out the cost/benefit curve so that marginal analysis is possible. Further, where the interacting variables are numerous or complex, a model can evaluate the implications of changed inputs or assumptions in a way quite beyond the powers of the average decision-maker or analyst--or even the judgment of an experienced professional in the field. Occasionally in these circumstances quite counter-intuitive answers emerge--and when subjected to empirical verification are found to be true.

- (3) Moreover, models help provide a hedge against risk and uncertainty. They answer the decision-maker's perpetual question, "What if . . . ?" A model can give him some idea of how the apparently preferred solution or alternative may vary in effectiveness over a wide range of less probable, but still conceivable, circumstances. This kind of information gives the decision-maker a better idea of the degree of risk he may be undertaking (or at least the penalty for being wrong) or may lead to the choice of an alternative with greater insurance features.
- (4) Similarly, where low confidence attaches to the most probable values for key input parameters, models help cope with uncertainty. Input values can be varied over an appropriate range to: (a) identify those inputs to which the solution is most sensitive; (b) establish quantitatively the degree of sensitivity; and (c) determine break-even points at which ostensibly preferred solutions are no longer attractive.¹⁸

The first WICHE MIS analytical model will be the initial version of a Resource Requirements Prediction Model (RRPM-1). The RRPM-1 is a set of generalized computer routines designed to estimate the resource requirements associated with operating an institution of higher education over a specified period of time.^b This initial model will estimate the budget, manpower, and facilities necessary to support a given number and mix of students subject to a set of constraints defined by the institution. The model will represent each of the major programs of higher education as defined by the Program Classification Structure but will concentrate initially on the instruction program.

^bThe model design is based on Weathersby's simulation model of higher education cost structures and relationships. See Ref. 19.

Input to the model will also be based on the Program Classification Structure: data for support programs will be accepted at the subprogram level, for the primary programs at the program category level. (See Section II for a description of these levels.) An induced course-load matrix similar to Figure 1.4 (page 1-22) will be required for the regular instruction subprogram; however, the remaining instruction subprograms will require only a two-dimension matrix: discipline category by discipline category.

Output from the model will also follow the format of the Program Classification Structure. In addition, the model will generate various reports suitable for management analysis and comparison of alternative resource allocation decisions. Current plans are to pilot-test RRPM-1 at approximately five institutions during the 1970-71 academic year. It is anticipated that the prototype model and associated documentation will be sufficiently tested and verified for general release by approximately June 1971.

Other WICHE MIS models anticipated for the near future are a second version of the Resource Requirements Prediction Model (RRPM-2), and a student flow model. RRPM-2 will provide a more extensive analysis of the organized research program and accept data at a lower level of detail than RRPM-1. RRPM-2 is expected to be operational by approximately June 1972. The student flow model will be developed in a generalized form for both individual campuses and statewide systems. The initial effort will be directed toward the development of a campus model which

will then be extended to a statewide system model. The campus model should be available by summer 1971, the statewide system model a year later.

For any single institution the development of such models would be a difficult and costly task; however, models can be developed in a generalized form for use by many institutions. The WICHE MIS Program plans to develop generalized models in a number of areas of fundamental importance. This central developmental effort will reduce the cost to individual institutions to that of adapting the general model to the institution's unique needs. Previously, the development of generalized models has been restricted, due to the numerous data systems in higher education and the need to tailor the models to the unique structure of each institution. However, the adoption of a common standard for classifying institutional data permits the development of such generalized models by allowing the model to be designed to a general structure that can be related to each institution's data system. Thus, the Program Classification Structure will serve as a common "currency of exchange" for all institutions participating in the implementation of WICHE MIS analytical models.

Cost Exchange Procedures

Historically, American colleges and universities have tended to concern themselves with their own needs rather than the general needs of higher education. One of the significant shifts of higher education in America is the academic administrator's growing concern for the educational needs of an entire state and/or region, and how the goals of an individual college or university fit into these broader educational

objectives.²⁰ Further, the emerging importance of program budgeting in higher education has resulted in the need for improved criteria to evaluate the effectiveness of higher education programs. However, objective measures of efficiency for an institution of higher education are difficult, if not impossible, to devise without comparable data from similar institutions.

This concern for higher education programs on a state and regional basis, coupled with a growing interest by institutions to have comparable data from similar institutions to aid in planning and analysis, has resulted in a nationwide cooperative effort to develop standard procedures for data exchange.²¹ In order to accomplish the exchange of comparable data, it is necessary to develop a taxonomy of higher education activities that will serve as a structure for classifying the various kinds of information relating to the programs of higher education. An agreement by participating institutions to adopt a common reporting structure is prerequisite to the exchange of comparable program data.²² Thus, development of the Program Classification Structure is the first step toward exchange of comparable data for use in planning and analysis on a program basis.

An important related step will be the development and adoption of a standard set of expenditure, revenue, resource, activity, and output data categories ("component measures") to be incorporated into the Program Classification Structure.

When the various measures of higher education activities are developed and accepted by the participating institutions, then a basis will have been established for the exchange of meaningful and consistent analytic data to assist in making better resource allocation decisions at both the intra- and inter-institutional level.

Unit Costs of Instruction

One of the more commonly used measures for analysis of higher education programs is the unit cost of instruction. There are various ways to array the data concerning the costs of college instruction. Previous studies have focused on unit cost per credit hour,²³ cost per degree,²⁴ and cost per student.²⁵ All of these measures have validity in certain specific contexts, but their use has been restricted because of the problems associated with developing comparability between independent or isolated studies. A stated objective of the WICHE MIS Program is to establish comparability in this area through the development of standard procedures for reporting the unit costs of instruction.²⁶ These procedures will determine the costs of instruction by:

- a. Academic discipline and course level of instruction
- b. Field of study (degree major) and level of student
- c. Type of degree and discipline

"Academic discipline" refers to the instructional activities within a particular discipline, e.g., physics courses. These may be further distinguished by the target level of instruction; thus, "course level" refers to the level of sophistication at which instruction in a discipline

may be offered,²⁷ e.g., lower division physics. The student's "field of study" refers to the mix of courses which typically may be credited toward a specific academic degree or certificate. Instruction by "student level" is based on the total accredited work by a student and reflects his level of progress toward a degree,²⁸ e.g., a sophomore physics major.

Often the program concept is clouded in its application to academic instructional programs because of the dual nature of the instruction-producing activities. For example, all course offerings in physics comprise the physics discipline instruction program; whereas physics majors may take some courses in physics, some in mathematics, etc., to constitute a degree program in physics. Thus, the components of an instructional program may be reviewed in terms of their contribution to a degree program or in terms of their contribution within the discipline. Nevertheless, the distinction between instructional program cost and degree program cost is fundamental and must be kept clear and explicit:

- a. The discipline instruction program is concerned with the instruction activities in a specific field of knowledge, i.e., discipline as defined by the HEGIS Taxonomy.^c
- b. The degree program is concerned with the instruction activities in which a student engages in the pursuit of a degree or certificate, i.e., the curricula mixes which lead to the award of a specific degree.

^cThe standard disciplines to be used in the Higher Education General Information Survey (HEGIS) will be published shortly by the National Center for Educational Statistics under the title, "A Taxonomy of Instructional Programs in Higher Education." A reprint, which will be referred to as the HEGIS Taxonomy is contained in Appendix II.

The Program Classification Structure immediately accommodates costs of discipline instruction by course level if instruction program elements are defined as course offerings by level, e.g., lower division physics instruction. With such data, the report illustrated in Figure 1.1 may be a direct outcome of processing instruction program elements using the format of the Program Classification Structure.

Figure 1.1 is an example of a discipline instruction cost matrix using arbitrary data to represent relative cost by discipline category and course level. Such costs would be direct instruction expenditures, i.e., obtained directly from identified instruction program elements. In addition to cost information, activity indicators such as student credit hours and weekly student contact hours will be included as part of the characteristic data associated with these program elements. With such data, the discipline instruction cost matrix illustrated in Figure 1.1 may be converted to a unit cost matrix by dividing each matrix element by the total number of units associated with the element, say student credit hours.^d An example of a unit cost matrix is shown in Figure 1.2.

^d Note that it has not yet been determined whether student credit hours or weekly student contact hours should be used as the unit measure for discipline instruction costs. Studies in the area of higher education simulation models (see Ref. 19, 29, 30) indicate that weekly student contact hours tend to reflect more accurately the load placed upon the institutional resources and should be used to determine the extent of resource utilization. However, for the purpose of determining cost of degrees, credit hours should most likely be used, since credit hours are usually the unit basis for the award of degrees. The examples following use student credit hours, although for the purposes of certain types of analysis weekly student contact hours should be substituted. Note also that the data used in Figures 1.1, 1.2, 1.3, and 1.4 are arbitrary and are for illustrative purposes only.

<u>Total Direct Instruction Cost</u> (For a Given Term)						
DISCIPLINE CATEGORY	COURSE LEVEL				Graduate Only	Total
	Lower Division	Upper Division	Grad/Upper Division	Other		
Agriculture and Natural Resources	1,000	2,000	3,000	1,000	2,000	9,000
Architecture and Environmental Design	1,500	2,500	3,500	1,500	2,500	11,500
.						.
.						.
.						.
TOTAL	100,000	200,000	300,000	100,000	200,000	900,000

Figure 1.1, EXAMPLE OF A DISCIPLINE INSTRUCTION COST MATRIX

<u>Cost per Student Credit Hour</u> (For a Given Term)		COURSE LEVEL				
DISCIPLINE CATEGORY	Lower Division	Upper Division	Grad/Upper Division	Graduate Only	Other	Average
Agriculture Natural Resources	10.50	12.80	18.40	27.10	16.80	21.30
Architecture and Environmental Design	14.50	17.50	26.40	31.40	22.90	25.50
.						.
.						.
.						.
AVERAGE	13.80	15.20	31.50	36.70	21.60	24.90

Figure 1.2, EXAMPLE OF A DISCIPLINE INSTRUCTION UNIT COST MATRIX

To make the transition from unit costs by discipline instruction and course level to unit costs by field of study and student level, requires information on the distribution of courses taken by students of various levels in the different majors, e.g., the courses taken by freshmen majoring in Agriculture. Figure 1.3 is an example of the credit distribution matrix for students majoring in Agriculture which describes the total number of credit hours generated by these students at a particular point in time.

Dividing the elements of each column in Figure 1.3 by the total number of students for the column results in an average distribution of credit hours per student by level. For example, suppose there were 20 freshmen majoring in Agriculture and they generated the credit hours shown in Column 1 of the Credit Distribution Matrix. Dividing each of the column entries by 20 will result in the distribution of average credit hours per freshman Agriculture major. This distribution of average credits is often referred to as the "induced course-load matrix" or the "student crossover matrix" -- a matrix which describes the distribution of the average load placed on the instruction program by students pursuing various degrees, e.g., the math courses taken by physics majors, chemistry courses taken by history majors, upper division courses taken by freshmen. For the present, it is assumed that the induced course-load matrix is developed and maintained apart from, but in a manner compatible with, the Program Classification Structure. Figure 1.4 is an example of a portion of an induced course-load matrix for a given term and a particular field of study.

The portion of the induced course-load matrix illustrated in Figure 1.4 is a three-dimensional matrix which describes the historical or current average distribution of credit hours for a student in Agriculture and Natural Resources by student level for each discipline and course level at a particular point in time. The complete induced course-load matrix is normally four-dimensional: Field of Study by Student Level and Discipline by Course Level.

Field of Study: AGRICULTURE AND NATURAL RESOURCES
(Credit Hours for a Given Term)

DISCIPLINE by COURSE LEVEL	STUDENT LEVEL						
	1	2	3	4	5	6	TOTAL
Agriculture and Natural Resources	120	140	80	20	10	10	400
Lower Division	20	40	60	90	70	40	350
Upper Division	---	---	130	50	90	100	450
Upper/Graduate	---	---	---	10	30	50	180
Graduate Only	---	---	---	5	---	10	20
Other	---	---	---	---	---	---	---
Subtotal	140	180	270	175	200	210	1,400
Architecture and Environmental Design	---	10	15	---	---	---	30
Lower Division	---	---	5	10	20	30	100
Upper Division	---	---	---	10	30	20	120
Upper/Graduate	---	---	---	---	---	---	---
.	---	---	---	---	---	---	---
.	---	---	---	---	---	---	---
.	---	---	---	---	---	---	---
TOTAL	330	340	600	390	400	300	3,000

Figure 1.3, EXAMPLE OF A CREDIT DISTRIBUTION MATRIX

Field of Study: AGRICULTURE AND NATURAL RESOURCES
(Average Credit Hours per Student for a Given Term)

DISCIPLINE by COURSE LEVEL	STUDENT LEVEL							OVERALL AVERAGE
	1	2	3	4	5	6	12	
Agriculture and Natural Resources								
Lower Division	6.0	7.0	2.0	0.7	0.2	0.2		1.6
Upper Division	1.0	2.0	1.5	3.0	1.4	0.8		1.4
Upper/Graduate	---	---	3.2	1.7	1.8	2.0		1.8
Graduate Only	---	---	---	0.2	0.6	1.0		0.7
Other	---	---	---	0.1	---	0.2		0.1
Subtotal	7.0	9.0	6.7	5.7	4.0	4.2		5.6
Architecture and Environmental Design								
Lower Division	---	0.5	0.4	---	---	---		0.1
Upper Division	---	---	0.1	0.3	0.4	0.6		0.4
Upper/Graduate	---	---	---	0.3	0.6	0.4		0.5
.								.
.								.
.								.
TOTAL	16.5	17.0	15.0	13.0	8.0	6.0		12.0

Figure 1.4, EXAMPLE OF AN INDUCED COURSE-LOAD MATRIX

The application of these various tools to higher education management is, clearly, a difficult but compelling problem. It should be recognized that academic objectives are multi-dimensional and consideration must be given to both the quantity and quality of the output. Thus, any criterion for the achievement of an academic objective should reflect both of these dimensions. Further, the restricted nature of resources often requires some degree of trade-off between the quantity and quality dimensions of higher education programs. Such measurements must, therefore, incorporate the interaction between the two. In order to define a set of common measures and objectives for use by colleges and universities, agreement must be reached on questions such as:

- a. What goals are various types of institutions seeking to achieve?
- b. What specific and operationally identifiable objectives characterize these goals?
- c. What are the outputs which contribute to the achievement of specific objectives and how do we measure them?

Development of answers to these questions may necessitate modifications in the proposed Program Classification Structure. The extent of such modification is unknown at this time. However, it is reasonable to assume that modification of this structure is inevitable, for as Melvin Anshen so wisely stated, "Precisely how to achieve a rational and useful structure for a program budget is not yet evident. Moving toward an optimal structure will inevitably be a gradual process."³¹ An optimal Program Classification Structure must, therefore, be developed carefully and thoughtfully and in a manner which is responsive to the needs

of academic decision-makers. The paragraphs following present the initial attempt to describe a generalized structure which has been developed to further inter-institutional comparability and standardized data exchange.

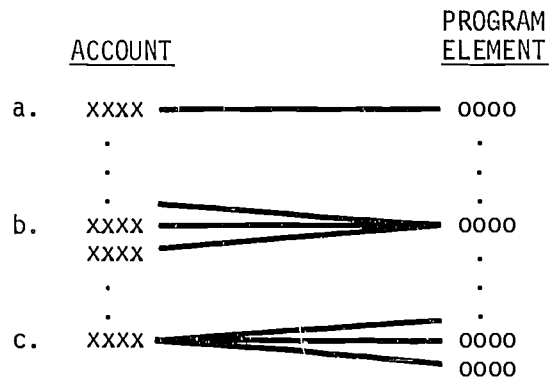
The Rationale of the Structure

The Program Classification Structure is intended to provide a mechanism which will facilitate the organization of data and the use of various planning and management tools. It is designed to supplement the institution's accounting structure without requiring the institution to restructure its current operational system. For most institutions, a transformation routine can be developed which will provide a crossover from the chart of accounts to the Program Classification Structure without a major change in the accounting system.

The Program Classification Structure is based on program elements^e which are separately controlled, output-producing activities established to achieve the program objectives. Although the program element concept is used essentially for planning and management purposes, data from the normal accounting system may be transformed into the Program Classification Structure format through the program elements. Figure 1.5 is a diagram of the three ways in which financial account data will relate to the Program Classification Structure:

^eA program element is defined as a collection of resources, technologies, and policies which, through their integrated operation, produce goods or services, i.e., an output, which is of value to the organization because it contributes to the achievement of an institutional objective.

FIGURE 1.5
Crossover from Accounts to Program Elements



- a. data will map directly from one account to one program element;
- b. data will map from more than one account into a program element; or
- c. one account may split into two or more program elements.

A sample transformation or "crosswalk" which relates typical accounts to a program structure is contained in Appendix IV. For the various operational uses of the Program Classification Structure, it may be necessary to assign or allocate the cost and other data within these functions to program elements and allocate the data back to the appropriate areas of the program. The structure has been designed to aid in identifying the range of the allocation (see Coding, page 2-9) for those cases where a program element logically should be distributed across programs or various sectors within a program.

The Program Classification Structure has been developed with five objectives in mind:

1. To develop a common framework for classifying and organizing the program elements of higher education institutions.
2. To design the structure so that it is usable by a substantial variety of institutions with a wide range of institutional objectives.
3. To retain, where feasible, compatibility with current institutional structures.
4. To facilitate the transformation of data between existing institutional accounts and the Program Classification Structure.
5. To facilitate the exchange of institutional data and subsequent comparison and analysis.

There are many ways to view the role of higher education. Depending on the perspective, various conceptualizations of primary objectives can be formed.³² Hartley, writing on educational program planning and budgeting systems, suggests that there is no single "best" program structure for educational organizations because of the diversity of institutional characteristics and the range of missions that may modify the goals.³³ While this may be true, the need for consistent and comparable data requires that certain semi-arbitrary judgments be made to determine what appear to be common activities in higher education. The Program Classification Structure is designed to accommodate the objectives and modes of operation common to a wide variety of institutions. It is recognized that there will be certain unique institutional characteristics not easily identified in the standard Program Classification Structure. Nevertheless, the goal is to accommodate the vast majority of institutions by defining the structure

in a generalized form consistent with the typical objectives and activities of most colleges and universities. Moreover, the basis of the structure is program elements, defined by the institution, which may be reorganized in a structure that is compatible with an institution's specific objectives. Thus, an institution may aggregate program elements in one manner for institutional purposes and in another manner for WICHE MIS purposes without in any way restructuring its fundamental accounting system or organizational structure.

For the purposes of the Program Classification Structure, a program may be considered a set of program elements serving a common objective. The assignment of program elements to programs is based on the "primary intent" of the program element, i.e., the basic purpose or major reason for establishing and maintaining the program element. However, programs should be structured so that program elements which produce similar outputs are included within the same program.

For these purposes, a program element may be thought of as a collection of resources, technologies, and policies which, through their integrated operation, produce goods or services, i.e., an output, which is of value to the organization because it contributes to the achievement of an institutional objective. The program element represents the smallest, unique collection of resources which are output-producing activities, i.e., a set of resources and activities integrated in such a manner that no one activity or resource, without the contribution or support of the others, can contribute to the objective in a

measurable fashion. An instructional course is an example of a program element -- for instance, Introductory Physics is:

- a. a collection of resources and technologies (e.g., faculty, technicians, labs, and equipment);
- b. integrated through a series of activities (e.g., lectures, labs, discussion sessions);
- c. in a manner defined by a set of policies (e.g., lecture outline, lab manual, text);
- d. to produce a specific output (e.g., an increased level of knowledge of the basic principles of physics for one or more students);
- e. which contributes to an institutional objective (e.g., provide knowledge and learning).

Primary and Support Programs

The Program Classification Structure groups campus programs into two major types: primary programs and support programs. The primary programs contain the activities directly related to the accomplishment of the primary missions of the institution. Support programs contain those activities which are necessary or vital for the successful operation of the primary programs. Support programs have been structured in a manner that will facilitate the allocation of their costs to the primary programs for the purpose of determining average unit costs and total program costs.

The traditional functions of higher education have been retained in the Program Classification Structure: instruction, research, and public service are classified as primary programs. The libraries, administration, and student services are considered part of the support

programs. The following is a list of the major programs used in the Program Classification Structure:

PRIMARY PROGRAMS

- 1.0 Instruction Program
- 2.0 Organized Research Program
- 3.0 Public Service Program

SUPPORT PROGRAMS

- 4.0 Academic Support Program
- 5.0 Student Service Program
- 6.0 Institutional Support Program
- 7.0 Independent Operations Program

The arrangement of programs as primary and support inevitably requires a partially arbitrary classification. Many in the academic community would argue that the libraries are an integral part of the primary missions of any institution of higher learning. Others may argue that student development is a primary mission and should be so designated. It is likely that similar arguments can be presented for various assignments throughout the structure. Although some element of arbitrariness is an unfortunate necessity when developing a standard classification scheme, the proposed Program Classification Structure has been developed only after extensive and thorough consultation with various institutions and agencies of higher education. The assignment of program elements to various categories and the classification of programs is based on the "typical institution" notion, i.e., that which will fit the majority

of colleges and universities. The design of the structure is sufficiently flexible to accommodate most deviations from the norm. However, if necessary, it is possible to restructure the various programs in order to conform to unique institutional characteristics or other conceptual views of primary and support objectives without redefining the program elements.

Instruction

Institutions of higher education obviously have certain objectives in common. Basic to all institutions of higher education is that they offer some form of post-secondary instruction and most award degrees or certificates as an indicator of the level of proficiency achieved by the student. Thus, instruction leading toward a formal degree or certificate appears to be a primary objective common to most institutions of higher education. The instruction program consists of those program elements whose outputs are primarily eligible for credit in meeting specified formal curricular requirements, leading toward a particular degree or certificate granted by the institution.

Organized Research

In addition to the instruction program, many institutions allocate a significant portion of their resources in support of research activities. The primary objective of an organized research program is the creation and dissemination of new knowledge. It consists of program elements which have been specifically organized to produce research outcomes commissioned by an agency either external to the institution or authorized by an organizational unit within the institution.

Institutions conducting organized research may choose to engage only in projects which also contribute to the achievement of other objectives, e.g., the graduate instruction program. One of the major spillover benefits of the organized research program, therefore, is the opportunity it provides for research activities which are essential to high quality graduate instruction and faculty development. The existence of these spillover benefits may have important cost-reducing effects on the instructional program. Nevertheless, despite these interactions the organized research activities should be identified as distinct programs since the primary intent of the research activities is the achievement of research outcomes (new knowledge) specified by the commissioning agency. It is recognized that the "primary intent" principle, while useful as an initial test for classifying program elements, should not preclude institutional analysis or special studies to determine more explicitly the contribution to joint products. This is of particular concern in the area of organized research where there may be significant joint contribution to both instruction and research objectives.

Public Service


Many institutions of higher education provide services to clientele external to the institution, i.e., the general public. Public service program elements are established to make available to the public the various unique resources and capabilities of higher education. The objective of a public service program is to provide services which are beneficial to groups external to the institution. Such benefits may be cultural or economic and may be directed toward individuals, common interest groups, or larger communities.

Academic Support

Typically, institutions establish program elements to provide services which are vital to the processes of the primary programs. The objectives of the academic support program are to provide support services which are an integral part of the operations of the primary programs. These are defined as the preservation, maintenance, and display of the current stock of knowledge and the provision of various services and capabilities for the primary programs. The academic support program is further characterized by the media and technology employed in accomplishing its overall objectives.

The media for preserving, maintaining, and displaying the stock of knowledge include printed materials and manuscripts, works of art, artifacts, natural objects, motion pictures, video tape, photographs and slides, recordings, and other data recorded in electro-magnetic form. Typically, materials in these various media have been preserved, maintained, and displayed in functional entities such as libraries, museums, galleries, and other repositories. These organizational or physical entities may be categorized by major academic disciplines to which they are devoted.

Computing support has been included in the academic support program because computer technology is emerging as an important service integral to instruction, research, and public service activities. Consider establishing a modern college or university with an instruction program or research program of any significance without access to a computer facility. It may be that isolated examples can be found which demonstrate



that computing support is not always a necessary part of the instruction, research, and public service programs. However, in general it appears that computing services are as much a part of higher education as, say, libraries and, in certain cases, they may replace libraries as an information source.

In addition to computing support, other ancillary units may be established to provide various services or supplement the activities of the primary programs. These program elements are characterized by the joint-product nature of their operation, in that they relate to all three primary programs. An example of an ancillary operation is a teaching hospital which provides the capability for the practical application of the health science disciplines in a manner which directly serves the objectives of the instruction program, the public service program, and often the research program.

Student Service

The overall objective of a student service program is to contribute to the student's emotional and physical well-being and his intellectual, cultural, and social development, outside the context of the formal academic program. The student service program attempts to achieve this overall objective by (a) enhancing the student's effectiveness as a student; (b) expanding the dimensions of the student's educational experience; and (c) providing the necessities and conveniences for the physical and emotional well-being of students.

Institutional Support

In higher education, as in any organized system, program elements have been established to provide those services which are necessary to maintain and sustain the organization. The institutional support program consists of program elements which provide operational support for the day-to-day functioning of the organization. The overall objective of the institutional support program is to maintain the institution's organizational effectiveness and continuity. It does this by (a) providing planning and executive direction; (b) providing efficient administrative and logistical services; (c) maintaining the quality of the physical environment; (d) enhancing relationships with the institution's constituencies; and (e) providing necessities and conveniences for faculty and staff.

Independent Operations

In addition to the above programs, colleges and universities often engage in activities that are independent of the existence of an institution of higher education. The independent operations program is established to collect those program elements which may be viewed as not related directly to the objectives of an institution of higher education.

SECTION II: THE PROGRAM STRUCTURE

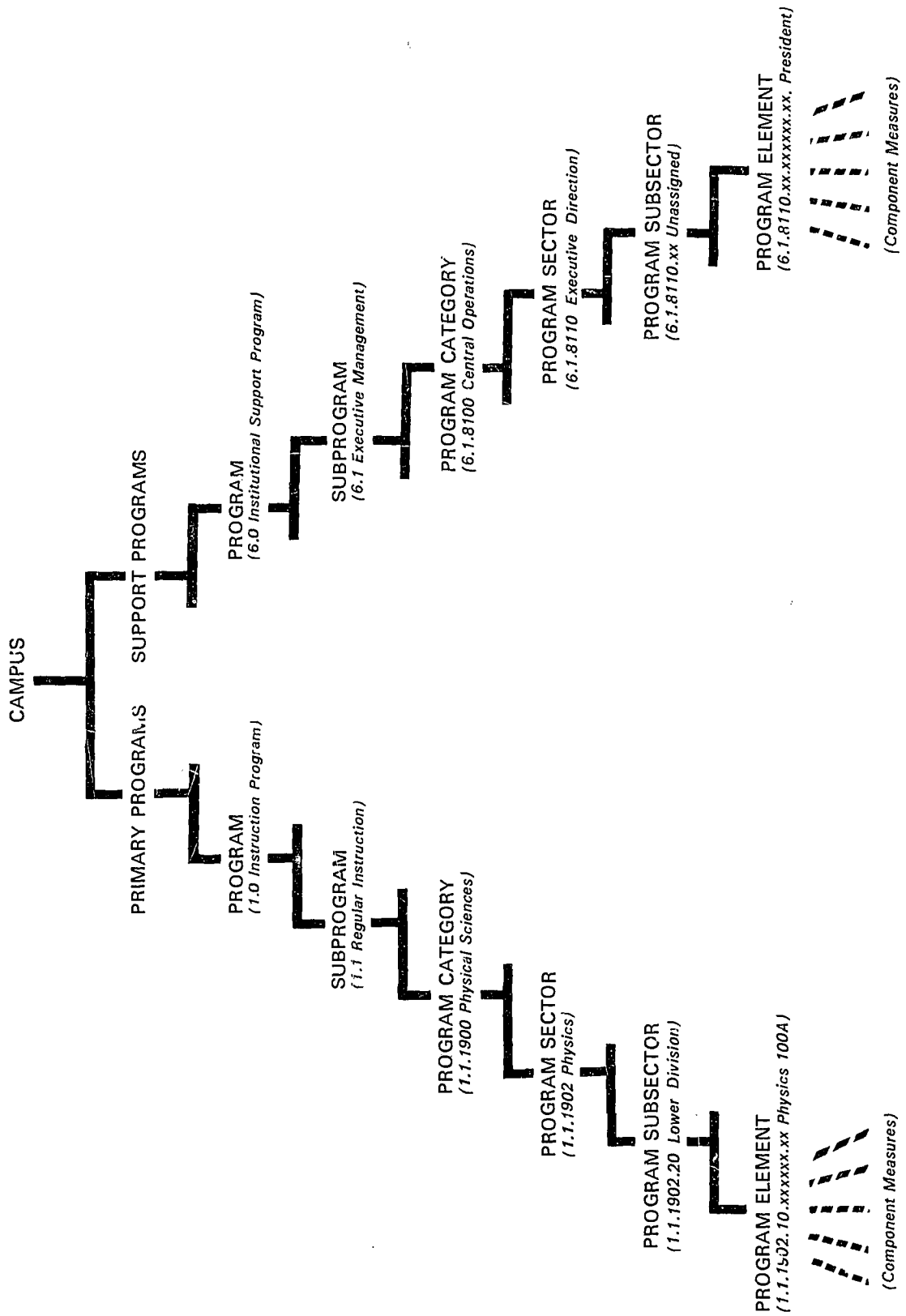
Introduction

A program structure is a classification system that categorizes the activities of an organization according to their relationship to the organization's objectives.³⁴ Although various schemes may be used, there are certain aggregation levels that are traditionally found in program structures:³⁵

- a) Program
- b) Subprogram
- c) Program Element

The WICHE MIS Program Classification Structure has expanded the number of levels in order to provide alternative aggregation levels and multi-dimensional classifications for analysis purposes. The levels of the structure are illustrated in Figure 2.1, page 2-2, and described in detail on the following pages. Briefly, the organizational unit is the CAMPUS, consisting of Primary programs and Support programs for the purpose of associating resources with programs and outputs. PROGRAM represents the major institutional missions and related support objectives. The program objective may be described by a number of sub-objectives which are represented by the SUBPROGRAM. The PROGRAM CATEGORY is an implicitly defined aggregation of Program Sectors which may be used to sum related Program Elements across program lines. PROGRAM SECTOR represents a

Figure 2.1: Program Classification Structure Nomenclature



collection of homogeneous program elements. The PROGRAM SUBSECTOR is included to identify the level of course for Instruction program elements, but is available for use in other programs at the option of the institution.

PROGRAM ELEMENT represents an activity or set of activities which contribute directly to the program objective in a measurable fashion. A Program Element is the primary component of the Program and represents the lowest order of aggregation for data in the Program Classification Structure. The various data which comprise a Program Element will be referred to as Component Measures, i.e., the indicators and expense categories associated with a Program Element. Component Measures serve as characteristic quantitative measures of output and resources utilized in the activities of a Program Element. The specific Component Measures to be used with the WICHE MIS Program Classification Structure will be the subject of a separate report.

The paragraphs following describe these various levels of the structure:

Campus

Campus is the highest level of aggregation in the Program Classification Structure. Multi-campus institutions and state systems may wish to develop individual, systemwide summary schemes; however, multi-campus data may be processed using the Program Classification Structure. Such data may be aggregated and summarized using the unassigned right two characters of the sixteen character coding structure to identify Program Elements by campus.

Primary and Support Programs

Primary programs are those programs which contribute directly to the mission of the institution. Support programs are those programs which are adjunct to, or in direct support of, the Primary programs.

Coding: Primary and Support programs are implicitly defined and do not require a code.

Program

Program is an aggregation level, structuring Program Elements into the major objectives defined in Section I. The Program Classification Structure is based on seven programs:

1. Instruction Program
2. Organized Research Program
3. Public Service Program
4. Academic Support Program
5. Student Service Program
6. Institutional Support Program
7. Independent Operations Program

Coding: A one character numeric code.

Subprogram

Subprogram is a subdivision of the Program for the purpose of collecting Program Elements into homogeneous sets related to the sub-objectives of the program. Subprograms are listed in Figure 2.3, page 2-13.

Coding: Two character numeric code; the first character defined by the Program code.

Program Category

Program Category is a classification of similar or related Program Sectors by area or function. The Program Category permits classification of Program Sectors independent of the program or subprogram structure and may be used to aggregate functionally related Program Elements across Program lines. Program Categories for the Instruction program, the Organized Research program, and the Public Service program^f correspond to the discipline categories of the HEGIS Taxonomy (Appendix I).

Coding: Program Category is implicitly defined by the first two characters of the Program Sector code. See Appendix I for a complete listing of the Program Categories.

Program Sector

Program Sector is a collection of Program Elements organized to achieve or contribute to a specific set of outputs related to the program objectives. Program Elements which are substitutes, i.e., produce similar outputs, should be organized within the same Program Sector. Program Sectors for the Instruction program, the Organized Research program, and the Public Service program^f correspond to the discipline sectors of the HEGIS Taxonomy (Appendix II).

Coding: Four character numeric code. See Sections III and IV of this report for a description of the proposed Program Sectors.

^fExcluding Agriculture Extension Service.

Program Subsector

Program Subsector refers to a subset of Program Elements within a Program Sector. It is designed primarily to identify the level of course for Instruction Program Elements, e.g., lower division. Subsector may be used as a convenient identification for institutional analysis in other programs where its use is optional.

Course level refers to the level of offering for instructional courses (normally associated with student level) but may be used in other programs to differentiate various student groups. The following codes are recommended for use in the Instruction Program (1.0), and are optional for use in the Organized Research Program (2.0), the Academic Support Program (4.0) and the Student Service Program (5.0), where it may be appropriate to link program elements with course levels:

- 1x. Preparatory
- 2x. Lower Division
- 3x. Upper Division
- 4x. Combined Upper Division and
Graduate or Professional
- 5x. Graduate or Professional Only
- 9x. Other

Lower Division (2x) relates to course offerings primarily intended for freshman and sophomore students, Upper Division (3x) for junior and senior students, Graduate and Professional (5x) relates to post-baccalaureate offerings. Preparatory (1x) refers to non-credit course offerings which may be required as part of the curricular requirements or preparation for lower division work. Combined Upper Division and Graduate or

Professional (4x) is to be used in those cases where no distinction is made between undergraduate and graduate courses. Other (9x) is a course level for those situations where the normal course levels are not appropriate.

The following codes are recommended for the Public Service program (3.0):

- 6x. Individuals
- 7x. Common Interest Groups
- 8x. Community Sectors.
- 9x. Other

Individuals (6x) refers to continuing education courses offered for general clientele, i.e., individuals within the community at large. Common Interest Groups (7x) refers to continuing education for specific professions or special interest groups. Community Sectors (8x) are the public service activities directed at particular sectors or subgroups of the community.

Coding: Two character numeric code. The first character is reserved for the above codes, the second character is unassigned.

Program Subsector coding is unassigned for the Institutional Support program (6.0), and the Independent Operations program (7.0).

Program Element

The lowest level of aggregation is the Program Element; a collection of resources, technologies, and policies integrated through a set of

activities to directly contribute to the program objective in a measurable fashion. It is normally a distinct entity, separately managed or controlled, and represents the basic unit of the Program Classification Structure.

Coding: A six character alpha-numeric code. Program Element codes are institutionally defined. Participating institutions should attempt to organize their Program Elements and associated coding structure in a manner which facilitates the transfer of current and future institutional data to the Program Classification Structure.

Note: In developing the Program Element code, institutions should make provisions to permit defining Instruction Program Elements at the course or section level.

Component Measures

Associated with each Program Element are Component Measures which characterize the Program Element. They are the indicators of resource utilization and output associated with the activities of the Program Elements. Although presently undefined, it is planned that the Component Measures will reflect quantitative measures of the following:

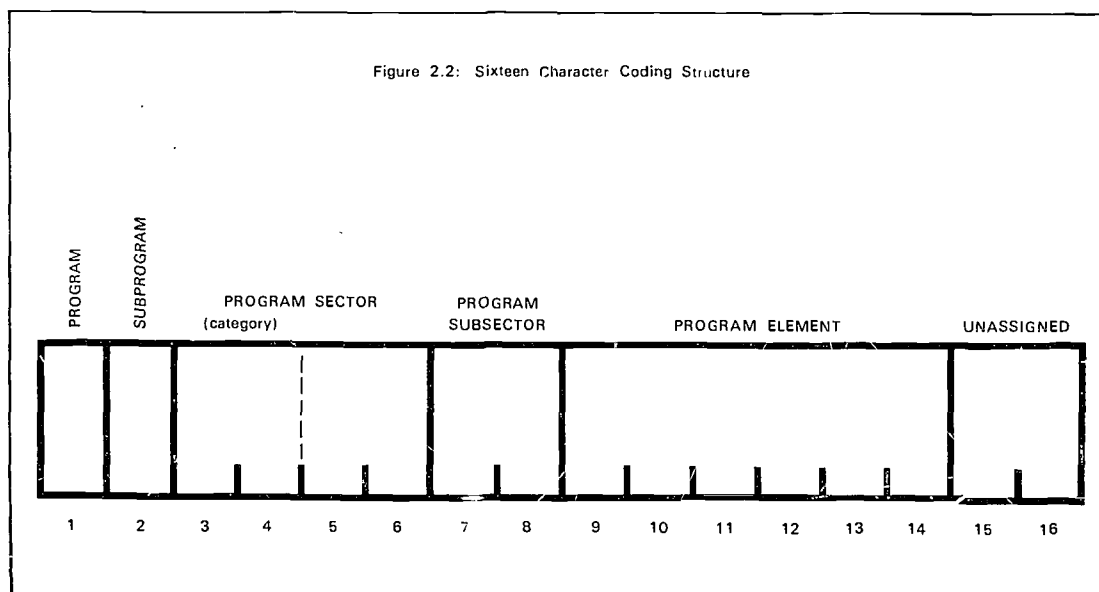
- a. Expenditures
- b. Revenues
- c. Resources
- d. Activities
- e. Outputs

Component Measures will be designed to allow a linkage to the regular account structure in order that program elements may be

identified to organizational units and the institution's chart of accounts. In addition, Component Measures will permit alternative aggregations of the Program Elements, e.g., by source of funds.

Coding

The Program Classification Structure is based on a sixteen character code to identify each Program Element. Figure 2.2 displays the proposed coding scheme for the Program Classification Structure. The fields of the sixteen character code correspond to the previously described levels of the structure. The last two characters, 15 and 16, are unassigned to allow the option of developing unique institutional reports, e.g., identifying the various campuses in a multi-campus system.



The codes for the first eight characters are specified by the WICHE MIS Program Classification Structure. The coding for the remaining eight characters, i.e., the program element codes, are institutionally defined in order that each institution may identify its program elements in a manner which facilitates the transformation of data from the institution's data system.

The coding structure has been designed to permit the entry of program elements at various levels within the structure. Normally, a program element is identified to a specific program sector. However, occasionally it is not appropriate to assign a program element specifically to one program sector, but rather to some higher level within the structure. In these cases, the coding scheme allows for zero entries in order that program elements may be included at a level of aggregation appropriate to the particular program element. For example, consider a program element for the management and administration of a major organizational unit, e.g., the Dean of Agriculture. Suppose this program element is appropriately identified only with the regular instruction subprogram (1.1). For this case, the program element may be coded using 0100 for the program sector code (Agriculture) which would permit the program element to be assigned to the program category level; e.g.,

1.1.0100.00.xxxxxx xx

The zero entries indicate that this program element is associated with all subsectors (00.) and all program sectors (0100) within the Agriculture regular instruction program category.

Further suppose that it is not appropriate to identify this particular program element with the regular instruction subprogram; but rather the program element is related to all three primary programs; Instruction, Organized Research, and Public Service. In this case, the subprogram and program code would be entered as a zero to indicate that the program element is distributed across programs, e.g.,

0.0.0100.00.xxxxxx xx

The additional zero entries indicate that the program element is associated with Agriculture program sectors occurring in all subprograms and programs (0.0.).

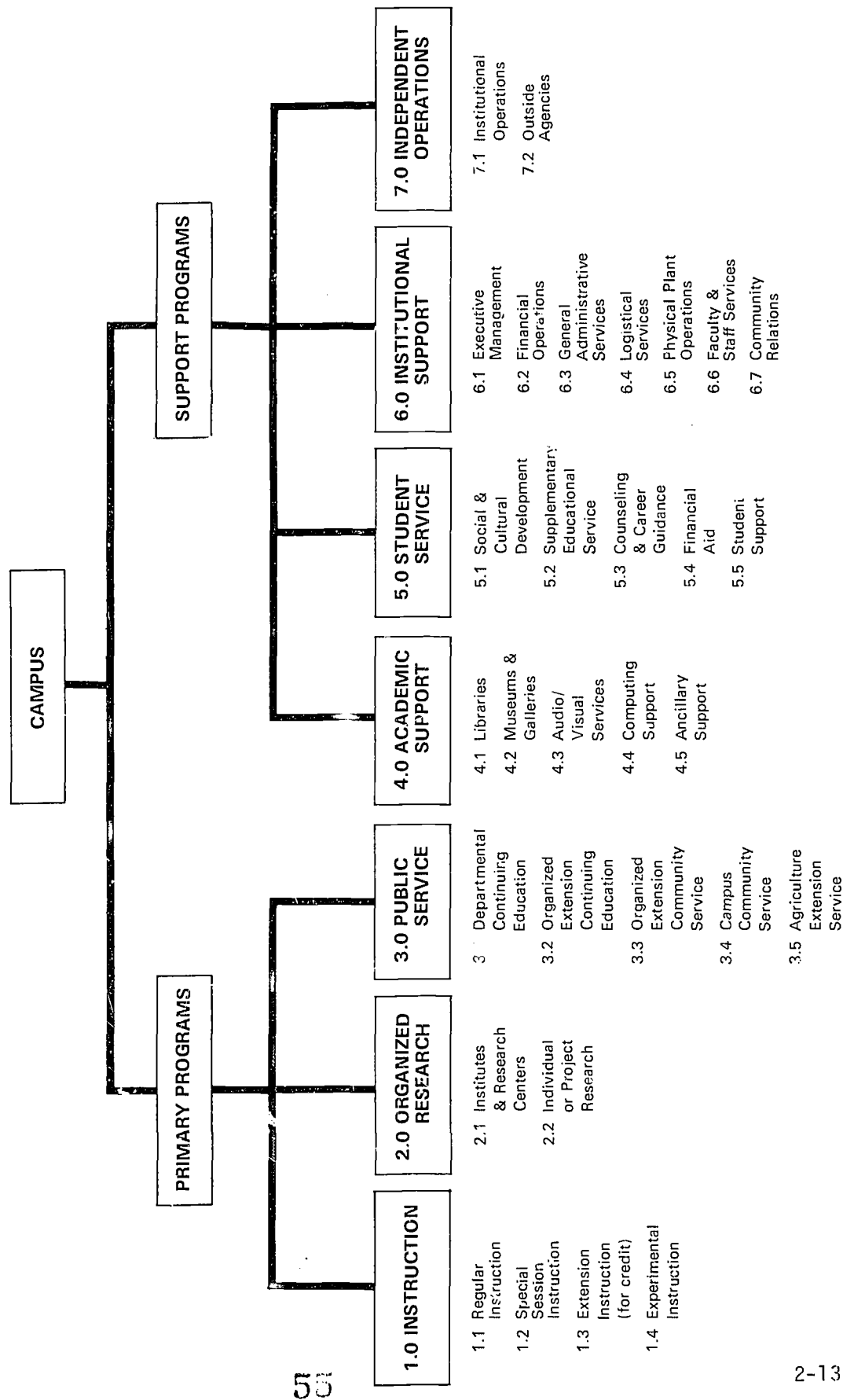
The provision for a zero entry permits program elements to be entered at the campus level, the program level, the subprogram level, or the program category level; whichever is appropriate to the specific program element. Reports will be developed to display such program elements and list them separately from the other program elements. For various applications of the Program Classification Structure, allocation procedures will be designed in a manner which will permit distributing the cost of such higher level program elements back to the appropriate program sectors without a loss of information related to the program element.

Organization of the Structure

The Program Classification Structure has been designed to permit the aggregation of program elements in alternative ways to support various internal institutional needs. The coding scheme, described in Sections III and IV following, is suggested for use by institutions participating in the WICHE Management Information Systems Program in order to provide the framework for comparable data exchange and the use of generalized models.

Figure 2.3 displays the organization of the Program Classification Structure to the subprogram level and the associated codes by program. The names and the coding for the primary program sectors, i.e., those in Instruction, Organized Research, and Public Service are based on the new HEGIS Taxonomy of Academic Disciplines. Appendix II is a reprint of the HEGIS Taxonomy which has been adopted as the coding structure for use in primary program sectors. The coding for support program sectors is also based on the HEGIS Taxonomy where it appears useful to identify program elements with disciplines.

Figure 2.3: Organization of the Program Classification Structure



SECTION III: THE PRIMARY PROGRAMS

The Program Classification Structure is divided into Primary programs and Support programs. The rationale for this dichotomy was discussed previously in Section I, but it should be mentioned again that this separation is made only to identify classifications of programs and has no reflection upon the purposes of any institution of higher education.

The Primary programs are those programs which contribute directly to the major missions of higher education. For the purposes of the WICHE MIS Program Classification Structure, these programs are defined as:

- 1.0 Instruction Program
- 2.0 Organized Research Program
- 3.0 Public Service Program

1.0 Instruction Program

The Instruction program consists of all formal instructional activities in which a student engages to earn credit toward a degree or certificate at the institution. Those program elements which have been established to provide instructional services, but are not creditable toward degrees, should be assigned to the Student Service program (5.0) if the primary intent is to provide supplemental or remedial educational services for matriculated students; or to the Public Service program (3.0) if the primary intent is to offer instructional services for members of the community.

The Instruction program presently consists of four subprograms:

- 1.1 Regular Instruction
- 1.2 Special Session Instruction
- 1.3 Extension Instruction (for credit)
- 1.4 Experimental Instruction

The coding for each of the above subprograms is based on the HEGIS Taxonomy as listed in Appendix II. For those cases in which a program element is not identified to a HEGIS discipline sector, the program element should be assigned to the appropriate HEGIS discipline category. In certain cases, it will be necessary to assign program elements to "Other Instruction" (9100), which is a miscellaneous program category appearing in each Instruction subprogram. Other Instruction should be used only for program elements which are appropriately assigned to the Instruction program but do not fit within the specifications of the HEGIS disciplines. The program sectors for this category are unassigned and may be coded in a manner which best accommodates the structure of the institution.

Regular Instruction (1.1) are those instructional program elements operating during the standard academic term (as defined by the institution) which are part of a formal degree or certificate curriculum and are managed by the regular academic departments. Excluded from Regular Instruction are experimental and innovative program elements, extension or similar program elements, and instructional activities during special sessions.

Special Session Instruction (1.2) includes instructional program elements which earn credit toward a formal degree or certificate and are offered during a summer session, interim session, or other period that is not common with the institution's regular term. Institutions operate on various term bases and some institutions may wish to segregate their instructional activities during the special sessions in order to preserve compatibility with other participating institutions. This subprogram will allow the optional separation of such special session program elements.

Extension Instruction (for credit) (1.3) includes all instructional program elements that are managed separately by an extension division (or similar agency within the institution) and are applicable toward a formal degree or certificate. Excluded from this subprogram are those extension program elements or similar activities which may not be credited toward formal degrees or certificates and are offered by an institution primarily as a public service; e.g., continuing education, short courses, etc.

Experimental Instruction (1.4) is included in the structure to identify temporary instructional program elements which are experimental or innovative and represent a marked departure from the standard curriculum. It is assumed that such experimental program elements can be identified with a discipline category and are applicable toward a formal degree or certificate. At such time as a program element within the Experimental Instruction subprogram becomes an accepted part of the normal curriculum, the program element should be included in Regular Instruction and dropped from the Experimental Instruction subprogram.

1.0 INSTRUCTION PROGRAM

1.1 REGULAR INSTRUCTION SUBPROGRAM

1.1.0100 Agriculture and Natural Resources (Program Category)

- (Program Sector)
- 1.1.0101 Agriculture, General
 - 1.1.0102 Agronomy, Field Crops, and Crop Management
 - 1.1.0103 Soils Science (Management and Conservation)
 - 1.1.0104 Animal Science (Husbandry)
 - 1.1.0105 Dairy Science (Husbandry)
 - 1.1.0106 Poultry Science
 - 1.1.0107 Fish, Game, and Wildlife Management
 - 1.1.0108 Horticulture (Fruit and Vegetable Production)
 - 1.1.0109 Ornamental Horticulture (Floriculture, Nursery Science)
 - 1.1.0110 Agricultural and Farm Management
 - 1.1.0111 Agricultural Economics
 - 1.1.0112 Agricultural Business
 - 1.1.0113 Food Science and Technology
 - 1.1.0114 Forestry
 - 1.1.0115 Natural Resources Management
 - 1.1.0116 Agriculture and Forestry Technologies
 - 1.1.0117 Range Management
 - 1.1.0199 Other, Specify

1.1.0200 Architecture and Environmental Design

- 1.1.0201 Environmental Design, General
- 1.1.0202 Architecture
- 1.1.0203 Interior Design

. Note: Refer to Appendix II for
. a complete listing of the
. HEGIS discipline sectors.

1.1.5500 Public Service Related Technologies

- 1.1.5501 Public Service Technologies, General
- .
- .
- .
- 1.1.5599 Other, Specify

1.1.9100 Other Instruction

- 1.1.9101 Unassigned: May be used for Instruction program elements
. which are established to provide regular
. instruction for degree credit and are not
. appropriately assigned to the HEGIS discipline
categories and sectors as listed in Appendices
1.1.9199 I and II.

1.0 INSTRUCTION PROGRAM (continued)

1.2 SPECIAL SESSION INSTRUCTION SUBPROGRAM

1.2.0100 Agriculture and Natural Resources (Program Category)

1.2.0101 Agriculture, General (Program Sector)

- 1.2.0102 Agronomy, Field Crops, and Crop Management
- 1.2.0103 Soils Science (Management and Conservation)
- 1.2.0104 Animal Science (Husbandry)
- 1.2.0105 Dairy Science (Husbandry)
- 1.2.0106 Poultry Science
- 1.2.0107 Fish, Game, and Wildlife Management
- 1.2.0108 Horticulture (Fruit and Vegetable Production)
- 1.2.0109 Ornamental Horticulture (Floriculture, Nursery Science)
- 1.2.0110 Agricultural and Farm Management
- 1.2.0111 Agricultural Economics
- 1.2.0112 Agricultural Business
- 1.2.0113 Food Science and Technology
- 1.2.0114 Forestry
- 1.2.0115 Natural Resources Management
- 1.2.0116 Agriculture and Forestry Technologies
- 1.2.0117 Range Management
- 1.2.0199 Other, Specify

1.2.0200 Architecture and Environmental Design

- 1.2.0201 Environmental Design, General
- 1.2.0202 Architecture
- 1.2.0203 Interior Design

. Note: Refer to Appendix II for
. a complete listing of the
. HEGIS discipline sectors.

1.2.5500 Public Service Related Technologies

- 1.2.5501 Public Service Technologies, General

.
.
.

- 1.2.5599 Other, Specify

1.2.9100 Other Instruction

- 1.2.9101 Unassigned: May be used for Instruction program elements
. which are established to provide special
. session instruction for degree credit and
. are not appropriately assigned to the HEGIS
discipline categories and sectors listed
1.2.9199 in Appendices I and II.

1.0 INSTRUCTION PROGRAM (continued)

1.3 EXTENSION INSTRUCTION (for credit) SUBPROGRAM

1.3.0100 Agriculture and Natural Resources (Program Category)

1.3.0101 Agriculture, General (Program Sector)

- 1.3.0102 Agronomy, Field Crops, and Crop Management
- 1.3.0103 Soils Science (Management and Conservation)
- 1.3.0104 Animal Science (Husbandry)
- 1.3.0105 Dairy Science (Husbandry)
- 1.3.0106 Poultry Science
- 1.3.0107 Fish, Game, and Wildlife Management
- 1.3.0108 Horticulture (Fruit and Vegetable Production)
- 1.3.0109 Ornamental Horticulture (Floriculture, Nursery Science)
- 1.3.0110 Agricultural and Farm Management
- 1.3.0111 Agricultural Economics
- 1.3.0112 Agricultural Business
- 1.3.0113 Food Science and Technology
- 1.3.0114 Forestry
- 1.3.0115 Natural Resources Management
- 1.3.0116 Agriculture and Forestry Technologies
- 1.3.0117 Range Management
- 1.3.0199 Other, Specify

1.3.0200 Architecture and Environmental Design

- 1.3.0201 Environmental Design, General
- 1.3.0202 Architecture
- 1.3.0203 Interior Design

. Note: Refer to Appendix II for
. a complete listing of the
. HEGIS discipline sectors.

1.3.5500 Public Service Related Technologies

- 1.3.5501 Public Service Technologies, General
- .
- .
- .
- 1.3.5599 Other, Specify

1.3.9100 Other Instruction

- 1.3.9101 Unassigned: May be used for Instruction program elements
. which are established to provide extension
. instruction for degree credit and are not
. appropriately assigned to the HEGIS discipline
categories and sectors listed in Appendices
1.3.9199 I and II.

1.0 INSTRUCTION PROGRAM (continued)

1.4 EXPERIMENTAL INSTRUCTION SUBPROGRAM

1.4.0100 Agriculture and Natural Resources (Program Category)

- (Program Sector)
- 1.4.0101 Agriculture, General
 - 1.4.0102 Agronomy, Field Crops, and Crop Management
 - 1.4.0103 Soils Science (Management and Conservation)
 - 1.4.0104 Animal Science (Husbandry)
 - 1.4.0105 Dairy Science (Husbandry)
 - 1.4.0106 Poultry Science
 - 1.4.0107 Fish, Game, and Wildlife Management
 - 1.4.0108 Horticulture (Fruit and Vegetable Production)
 - 1.4.0109 Ornamental Horticulture (Floriculture, Nursery Science)
 - 1.4.0110 Agricultural and Farm Management
 - 1.4.0111 Agricultural Economics
 - 1.4.0112 Agricultural Business
 - 1.4.0113 Food Science and Technology
 - 1.4.0114 Forestry
 - 1.4.0115 Natural Resources Management
 - 1.4.0116 Agriculture and Forestry Technologies
 - 1.4.0117 Range Management
 - 1.4.0199 Other, Specify

1.4.0200 Architecture and Environmental Design

- 1.4.0201 Environmental Design, General
- 1.4.0202 Architecture
- 1.4.0203 Interior Design

. Note: Refer to Appendix II for
. a complete listing of the
. HEGIS discipline sectors.

1.4.5500 Public Service Related Technologies

- 1.4.5501 Public Service Technologies, General

.
. .
. .

- 1.4.5599 Other, Specify

1.4.9100 Other Instruction

- 1.4.9101 Unassigned: May be used for Instruction program elements
. which are established to provide experimental
. instruction for degree credit and are not
. appropriately assigned to the HEGIS discipline
categories and sectors as listed in Appendices
I and II.
- 1.4.9199

2.0 Organized Research Program

The Organized Research program comprises all research-related program elements established within the institution under the terms of agreement with agencies external to the institution, or separately budgeted and conducted with internal funds. A research-related program element is one which is established to undertake an investigation of a specified scope as defined by the commissioning agency. Included are research divisions, bureaus, institutes, and experimental stations. Externally funded educational program elements such as workshops, short courses, and training grants would normally be considered as either Instruction or Public Service. In all cases, the primary intent or objective should be the criterion for classifying any program element.

Organized Research consists of two subprograms:

2.1 Institutes and Research Centers

2.2 Individual or Project Research

The Organized Research program structure is based on the HEGIS Taxonomy as listed in Appendix II. Included in both of the above subprograms is the program category "Other Organized Research" (92C0). This is a miscellaneous category to be used for those program elements which are not appropriately identified with the HEGIS discipline categories. The program sectors for the Other Organized Research category are unassigned, and may be defined by the institution in a manner which best serves their particular structure.

Institutes and Research Centers (2.1) contains all research-related program elements which are part of a formal research organization. Typically, research organizations are created to manage a number of research efforts. Program elements belonging to such semi-autonomous entities should be included within this program and classified according to the HEGIS disciplines wherever possible. In some cases, it may be preferred to classify these research organizations in relation to the general program category, e.g., physical sciences, rather than a specific program sector, e.g., physics. Research organizations which cannot be identified with a specific program category should be assigned a program sector code within the Other Organized Research program category.

Individual or Project Research (2.2) contains the research program elements which are normally managed within the academic departments. This subprogram consists of the various research-related program elements which have been created as a result of a contract, grant, or specific allocation of institutional resources to conduct a study or investigation of a specified scope. Generally, such program elements may be identified with the principal investigator and should be coded within his discipline sector or category. Program elements within this subprogram are normally of a temporary nature, i.e., created for a specified period of time, as contrasted to the more permanent nature of the research organizations within the Institutes and Research Centers subprogram.

Excluded from the Individual or Project Research subprogram are those activities related to the improvement of instructional skills, i.e., departmental research. The WICHE MIS Program has stated the position that such activities are inseparable from the instructional function and should be included within the instruction program.³⁶

2.0 ORGANIZED RESEARCH PROGRAM

2.1 INSTITUTES AND RESEARCH CENTERS SUBPROGRAM

2.1.0100 Agriculture and Natural Resources (Program Category)

- (Program Sector)
- 2.1.0101 Agriculture, General
 - 2.1.0102 Agronomy, Field Crops, and Crop Management
 - 2.1.0103 Soils Science (Management and Conservation)
 - 2.1.0104 Animal Science (Husbandry)
 - 2.1.0105 Dairy Science (Husbandry)
 - 2.1.0106 Poultry Science
 - 2.1.0107 Fish, Game, and Wildlife Management
 - 2.1.0108 Horticulture (Fruit and Vegetable Production)
 - 2.1.0109 Ornamental Horticulture (Floriculture, Nursery Science)
 - 2.1.0110 Agricultural and Farm Management
 - 2.1.0111 Agricultural Economics
 - 2.1.0112 Agricultural Business
 - 2.1.0113 Food Science and Technology
 - 2.1.0114 Forestry
 - 2.1.0115 Natural Resources Management
 - 2.1.0116 Agriculture and Forestry Technologies
 - 2.1.0117 Range Management
 - 2.1.0199 Other, Specify

2.1.0200 Architecture and Environmental Design

- 2.1.0201 Environmental Design, General
- 2.1.0202 Architecture
- 2.1.0203 Interior Design

. Note: Refer to Appendix II for
. a complete listing of the
. HEGIS discipline sectors.

2.1.5500 Public Service Related Technologies

- 2.1.5501 Public Service Technologies, General
- .
- .
- .
- 2.1.5599 Other, Specify

2.1.9200 Other Organized Research

- 2.1.9201 Unassigned: May be used for Organized Research Institutes
. and Centers unique to the institution or
. otherwise not appropriately identified to
. the HEGIS disciplines; e.g. interdisciplinary
centers.
- 2.1.9299

2.0 ORGANIZED RESEARCH PROGRAM (continued)

2.2 INDIVIDUAL OR PROJECT RESEARCH SUBPROGRAM

2.2.0100 Agriculture and Natural Resources (Program Category)

- (Program Sector)
- 2.2.0101 Agriculture, General
 - 2.2.0102 Agronomy, Field Crops, and Crop Management
 - 2.2.0103 Soils Science (Management and Conservation)
 - 2.2.0104 Animal Science (Husbandry)
 - 2.2.0105 Dairy Science (Husbandry)
 - 2.2.0106 Poultry Science
 - 2.2.0107 Fish, Game, and Wildlife Management
 - 2.2.0108 Horticulture (Fruit and Vegetable Production)
 - 2.2.0109 Ornamental Horticulture (Floriculture, Nursery Science)
 - 2.2.0110 Agricultural and Farm Management
 - 2.2.0111 Agricultural Economics
 - 2.2.0112 Agricultural Business
 - 2.2.0113 Food Science and Technology
 - 2.2.0114 Forestry
 - 2.2.0115 Natural Resources Management
 - 2.2.0116 Agriculture and Forestry Technologies
 - 2.2.0117 Range Management
 - 2.2.0199 Other, Specify

2.2.0200 Architecture and Environmental Design

- 2.2.0201 Environmental Design, General
- 2.2.0202 Architecture
- 2.2.0203 Interior Design

. Note: Refer to Appendix II for
. a complete listing of the
. HEGIS discipline sectors.

2.2.5500 Public Service Related Technologies

- 2.2.5501 Public Service Technologies, General
- .
- .
- .
- 2.2.5599 Other, Specify

2.2.9200 Other Organized Research

- 2.2.9201 Unassigned: May be used for individual or project
. Organized Research program elements
. which are not appropriately identified
. to the HEGIS discipline categories and
sectors listed in Appendices I and II.
- 2.2.9299

3.0 Public Service Program

The Public Service program contains the program elements within the institution which produce outputs directed toward the benefit of the community or individuals residing within the geographic service area of the institution. This program consists, primarily, of two major types of services -- continuing education and general public service.

For the purposes of the Program Classification Structure, continuing education service is considered to be those activities conducted by instructional program elements which have been established to provide an educational service to the various members of the community, and are not part of the degree curriculum, e.g., short courses, professional review courses, etc. Excluded from continuing education are those educational services provided to matriculated students such as program elements which have been established to provide preparatory, supplemental, or remedial instruction and are not part of the degree curriculum, e. g., English for foreign students, noncredit courses in study skills, tutorial courses. In those cases where preparatory instruction is required as part of the degree program, the program elements should be carried in the Instruction program (1.0) at the "1x" subsector level.

Community service is concerned with making available to the public various resources and unique capabilities that exist within the institution. Examples of community service may be conferences and institutes, general advisory services and reference bureaus, urban affairs, international affairs, radio and television, consultation, and similar activities

which meet the test that the primary intent for establishing and maintaining the program element is to provide services which are beneficial to groups and individuals outside of the institution. It is likely that program elements will occur which contribute jointly to the public service program and one or more of the other programs, e.g., a convocation which is open to the general public. In such instances, it will be necessary for the institution to determine whether the primary intent is directed toward the Public Service program or, for example, the Student Service program, and assign the program element accordingly.

Subprograms within Public Service draw a distinction between organized extension activities and campus or departmental public service activities. The nature of extension organizations, or similar organizations, is such that, typically, they exist as semi-autonomous subsystems within the institution and require separate analysis. For this reason, provision has been made to segregate the formal extension organization from the rest of the campus through separate subprograms.

The Public Service program contains five subprograms:

- 3.1 Departmental Continuing Education
- 3.2 Organized Extension Continuing Education
- 3.3 Organized Extension Community Service
- 3.4 Campus Community Service
- 3.5 Agriculture Extension Service

Coding for the first four subprograms is based on the HEGIS Taxonomy as listed in Appendix II. Moreover, each of the public service subprograms

contains the program category, "Other Public Service" (9300), which provides a block of unassigned program sectors for classifying program elements which are not appropriately identified with the HEGIS discipline categories or sectors.

The subsector coding for the Public Service program includes three additional levels beyond the standard course levels. The following subsector coding is recommended for distinguishing various program elements by target clientele:

- 6x Individuals
- 7x Common Interest Groups
- 8x Community Sectors
- 9x Other

The subsector "Individuals" (6x) is for general continuing education courses which are provided for individuals within the community at large, as contrasted to specific interest groups. Examples of general continuing education program elements may be non-credit courses of the following nature: Law for the Layman, Music Appreciation, Efficient Reading, etc.

Common Interest Groups (7x) is primarily for continuing education aimed at specific professions, e.g., continuing medical education, C.P.A. review, recent advances in tax law; or specific, homogeneous populations within the community, e.g., high school students, expectant mothers.

Community Sectors (8x) is to be used for well-defined geographic or political subdivisions such as particular socio-economic classes, specific neighborhoods or communities, etc.

Departmental Continuing Education (3.1) contains the program elements that are managed within the academic departments to provide continuing education, i.e., non-credit instructional services, to members of the community other than matriculated students.

Organized Extension Continuing Education (3.2) consists of the program elements within a formal extension organization which have been established to provide continuing educational services to members of the community other than the matriculated students.

Organized Extension Community Service (3.3) are those program elements which have been established within a formal extension organization to provide general community services, excluding instructional activities.

Campus Community Service (3.4) consists of program elements which are managed either within the academic departments or elsewhere within the institution and have been established to provide general public services to the community at large or special sectors within the community. Faculty consulting activities may be included within this subprogram by means of a pseudo-program element to represent the institutional resources committed to this type of service. Organized extension community services and all instructional services are excluded.

Agriculture Extension Service (3.5) has been established as a separate subprogram to accommodate the normally autonomous and self-contained subsystem of organized agriculture extension. Generally, when such a subprogram exists within an institution of higher education, it represents a major commitment of unique resources. Program categories for the

Agriculture Extension Service subprogram are based on the U. S. Department of Agriculture's Extension Management Information System Data Definition document, (EMIS).³⁷ The EMIS System defines 13 programs which have aggregated into four program categories as follows: (Numbers in parentheses correspond to the national extension element codes.)

6600 - Agricultural and Related Industries includes:

- Improving farm income (01)
- Marketing, utilization, distribution, and farm supply (03)
- Pesticide education and emergency preparedness (10)
- Forestry production and marketing (18)

6700 - Social and Economic Developments includes:

- Soil and water conservation (02)
- Community development (16)
- Recreation wildlife and natural beauty (17)
- Resource protection and environmental improvement (50)

6800 - Quality of Living includes:

- Food and Nutrition (09)
- 4-H youth development (11)
- Improved family living (12)

6900 - International Extension equates with:

- International programs (06)

EMIS element number 90, Program Leadership and Administrative Support, should be entered in the program structure at the sub-program level, bypassing the program categories, as a program element that relates to all of the program categories within the subprogram.

Because of the varied manner in which institutions relate their program elements to the national EMIS system, the program sectors for the Agriculture Extension Service subprogram have been left unassigned. Institutions may define program sectors within the coding structure in a manner which best serves the institutional purposes. A complete description of the program elements associated with each of the Agriculture Extension Service program categories is described in the National EMIS Purpose List for FY 1971³⁸ which served as the basis for the Agriculture Extension Service subprogram structure.

3.0 PUBLIC SERVICE PROGRAM

3.1 DEPARTMENTAL CONTINUING EDUCATION SUBPROGRAM

3.1.0100 Agriculture and Natural Resources (Program Category)

- (Program Sector)
- 3.1.0101 Agriculture, General
 - 3.1.0102 Agronomy, Field Crops, and Crop Management
 - 3.1.0103 Soils Science (Management and Conservation)
 - 3.1.0104 Animal Science (Husbandry)
 - 3.1.0105 Dairy Science (Husbandry)
 - 3.1.0106 Poultry Science
 - 3.1.0107 Fish, Game, and Wildlife Management
 - 3.1.0108 Horticulture (Fruit and Vegetable Production)
 - 3.1.0109 Ornamental Horticulture (Floriculture, Nursery Science)
 - 3.1.0110 Agricultural and Farm Management
 - 3.1.0111 Agricultural Economics
 - 3.1.0112 Agricultural Business
 - 3.1.0113 Food Science and Technology
 - 3.1.0114 Forestry
 - 3.1.0115 Natural Resources Management
 - 3.1.0116 Agriculture and Forestry Technologies
 - 3.1.0117 Range Management
 - 3.1.0199 Other, Specify

3.1.0200 Architecture and Environmental Design

- 3.1.0201 Environmental Design, General
- 3.1.0202 Architecture
- 3.1.0203 Interior Design

- .
 - .
 - .
- Note: Refer to Appendix II for
a complete listing of the
HEGIS discipline sectors.

3.1.5500 Public Service Related Technologies

- 3.1.5501 Public Service Technologies, General
 - .
 - .
 - .
- 3.1.5599 Other, Specify

3.1.9300 Other Public Service

- 3.1.9301 Unassigned: May be used for Public Service program
elements which have been established within
the academic departments to provide non-credit
instruction and are not appropriately assigned
to the HEGIS discipline categories and sectors
as listed in Appendices I and II.
 - .
 - .
 - .
- 3.1.9399

3.0 PUBLIC SERVICE PROGRAM (continued)

3.2 ORGANIZED EXTENSION CONTINUING EDUCATION SUBPROGRAM

3.2.0100 Agriculture and Natural Resources (Program Category)

- (Program Sector)
- 3.2.0101 Agriculture, General
 - 3.2.0102 Agronomy, Field Crops, and Crop Management
 - 3.2.0103 Soils Science (Management and Conservation)
 - 3.2.0104 Animal Science (Husbandry)
 - 3.2.0105 Dairy Science (Husbandry)
 - 3.2.0106 Poultry Science
 - 3.2.0107 Fish, Game, and Wildlife Management
 - 3.2.0108 Horticulture (Fruit and Vegetable Production)
 - 3.2.0109 Ornamental Horticulture (Floriculture, Nursery Science)
 - 3.2.0110 Agricultural and Farm Management
 - 3.2.0111 Agricultural Economics
 - 3.2.0112 Agricultural Business
 - 3.2.0113 Food Science and Technology
 - 3.2.0114 Forestry
 - 3.2.0115 Natural Resources Management
 - 3.2.0116 Agriculture and Forestry Technologies
 - 3.2.0117 Range Management
 - 3.2.0199 Other, Specify

3.2.0200 Architecture and Environmental Design

- 3.2.0201 Environmental Design, General
- 3.2.0202 Architecture
- 3.2.0203 Interior Design

. Note: Refer to Appendix II for
. a complete listing of the
. HEGIS discipline sectors.

3.2.5500 Public Service Related Technologies

- 3.2.5501 Public Service Technologies, General
- .
- .
- .
- 3.2.5599 Other, Specify

3.2.9300 Other Public Service

- 3.2.9301 Unassigned: May be used for Public Service program
. elements which have been established
. within the organized extension subprogram
. to provide non-credit instruction and are
. not appropriately assigned to the HEGIS
3.2.9399 discipline categories and sectors as listed
in Appendices I and II.

3.0 PUBLIC SERVICE PROGRAM (continued)

3.3 ORGANIZED EXTENSION COMMUNITY SERVICE SUBPROGRAM

3.3.0100 Agriculture and Natural Resources (Program Category)

- (Program Sector)
- 3.3.0101 Agriculture, General
 - 3.3.0102 Agronomy, Field Crops, and Crop Management
 - 3.3.0103 Soils Science (Management and Conservation)
 - 3.3.0104 Animal Science (Husbandry)
 - 3.3.0105 Dairy Science (Husbandry)
 - 3.3.0106 Poultry Science
 - 3.3.0107 Fish, Game, and Wildlife Management
 - 3.3.0108 Horticulture (Fruit and Vegetable Production)
 - 3.3.0109 Ornamental Horticulture (Floriculture, Nursery Science)
 - 3.3.0110 Agricultural and Farm Management
 - 3.3.0111 Agricultural Economics
 - 3.3.0112 Agricultural Business
 - 3.3.0113 Food Science and Technology
 - 3.3.0114 Forestry
 - 3.3.0115 Natural Resources Management
 - 3.3.0116 Agriculture and Forestry Technologies
 - 3.3.0117 Range Management
 - 3.3.0199 Other, Specify

3.3.0200 Architecture and Environmental Design

- 3.3.0201 Environmental Design, General
- 3.3.0202 Architecture
- 3.3.0203 Interior Design

. Note: Refer to Appendix II for
. a complete listing of the
. HEGIS discipline sectors.

3.3.5500 Public Service Related Technologies

- 3.3.5501 Public Service Technologies, General
- .
- .
- .
- 3.3.5599 Other, Specify

3.3.9300 Other Public Service

- 3.3.9301 Unassigned: May be used for Public Service program
. elements which have been established
. with the organized extension subprogram
. to provide general community service
. and are not appropriately assigned to
3.3.9399 the HEGIS discipline categories and
sectors as listed in Appendices I and II.

3.0 PUBLIC SERVICE PROGRAM (continued)

3.4 CAMPUS COMMUNITY SERVICE SUBPROGRAM

3.4.0100 Agriculture and Natural Resources (Program Category)

- (Program Sector)
- 3.4.0101 Agriculture, General
 - 3.4.0102 Agronomy, Field Crops, and Crop Management
 - 3.4.0103 Soils Science (Management and Conservation)
 - 3.4.0104 Animal Science (Husbandry)
 - 3.4.0105 Dairy Science (Husbandry)
 - 3.4.0106 Poultry Science
 - 3.4.0107 Fish, Game, and Wildlife Management
 - 3.4.0108 Horticulture (Fruit and Vegetable Production)
 - 3.4.0109 Ornamental Horticulture (Floriculture, Nursery Science)
 - 3.4.0110 Agricultural and Farm Management
 - 3.4.0111 Agricultural Economics
 - 3.4.0112 Agricultural Business
 - 3.4.0113 Food Science and Technology
 - 3.4.0114 Forestry
 - 3.4.0115 Natural Resources Management
 - 3.4.0116 Agriculture and Forestry Technologies
 - 3.4.0117 Range Management
 - 3.4.0199 Other, Specify

3.4.0200 Architecture and Environmental Design

- 3.4.0201 Environmental Design, General
- 3.4.0202 Architecture
- 3.4.0203 Interior Design

. Note: Refer to Appendix II for
. a complete listing of the
. HEGIS discipline sectors.

3.4.5500 Public Service Related Technologies

- 3.4.5501 Public Service Technologies, General
- .
- .
- .
- 3.4.5599 Other, Specify

3.4.9300 Other Public Service

- 3.4.9301 Unassigned: May be used for Public Service program elements which have been established within the academic departments (or other campus groups) to provide general community service and are not appropriately assigned to the HEGIS discipline categories and sectors as listed in Appendices I and II.
- .
- .
- .
- 3.4.9399

3.0 PUBLIC SERVICE PROGRAM (continued)

3.5 AGRICULTURE EXTENSION SERVICE SUBPROGRAM

3.5.6600 Agriculture and Related Industries (Program Category)

3.5.6601 Unassigned: May be used for Agriculture Extension
Service program elements established
to provide public service for the
agricultural industry.

3.5.6699

3.5.6700 Social and Economic Development

3.5.6701 Unassigned: May be used for Agriculture Extension
Service program elements established
to provide public service for social
and economic development in the rural areas.

3.5.6799

3.5.6800 Quality of Living

3.5.6801 Unassigned: May be used for Agriculture Extension
Service program elements established
to improve the quality of rural life.

3.5.6899

3.5.6900 International Extension

3.5.6901 Unassigned: May be used for Agriculture Extension
Service program elements established to
provide public service related to international
activities.

3.5.6999

3.5.9300 Other Public Service

3.5.9301 Unassigned: May be used for Agriculture Extension
Service program elements established to
provide public service which are not
appropriately assigned to the above program
categories.

3.5.9399

SECTION IV: THE SUPPORT PROGRAMS

The Support programs are those programs which are organized to provide direct support to the Primary programs or supplement the mission of the Primary programs. For the purposes of the WICHE MIS Program Classification Structure, the Support programs are defined to be:

- 4.0 Academic Support Program
- 5.0 Student Service Program
- 6.0 Institutional Support Program
- 7.0 Independent Operations Program

4.0 Academic Support Program

The Academic Support program are those program elements which support the Primary programs through the retention, preservation, and display of materials, or provide services which directly assist the academic functions of the institution. Within the Academic Support program are five subprograms:

- 4.1 Libraries
- 4.2 Museums and Galleries
- 4.3 Audio/Visual Services
- 4.4 Computing Support
- 4.5 Ancillary Support

The program structure for the Academic Support program is based on the HEGIS discipline categories as listed in Appendix I. Note that the coding structure is such that institutions wishing to classify program elements at a lower level of detail, i.e., the HEGIS discipline sectors, may use all four characters as listed in Appendix II. However,

the typical case will be to identify Academic Support program elements at the discipline category level.

Each of the Academic Support subprograms contain the program category, "Other Academic Support" (9400), which has been established to identify those program elements which are not central to the subprogram nor appropriately assigned to the HEGIS discipline categories. Program sector codes within this program category are unassigned and may be defined in a manner which best serves the structure of the institution. Note that program elements which are central to the subprogram should not be included within this category, but should be entered at the subprogram level using zeros in the program sector field to indicate the central nature of the program element, e.g., an institution has a single library serving all sectors of the institution.

The subsector codes may be used within the Academic Support program to indicate the level of program where the program element is appropriately identified to the course level, e.g., a graduate library.

Libraries (4.1) consists of all activities which directly support the operation of a catalogued or otherwise classified collection of published material. Program elements within the library subprogram will normally be separate library entities such as the law library, the engineering library, etc.

Museums and Galleries (4.2) includes all program elements established to provide services related to the collection, preservation, and

exhibition of historical materials, art objects, scientific displays, etc. Other program elements which may exist for the purpose of collection, preservation, and exhibition should be included within this subprogram, e.g., an arboretum. Libraries are excluded.

Audio/Visual Services (4.3) are all program elements associated with providing audio and/or visual materials to support the primary programs. Program elements are normally organizational units established to provide audio/visual service to a particular sector of the institution. Wherever possible, the program elements should be classified according to the HEGIS Taxonomy.

Care should be exercised in discriminating between the establishment of program elements to provide the audio/visual services for the primary programs, and program elements which use audio/visual technology as part of the instructional process. An example may be a language lab which is part of the degree curriculum and should be listed within the instruction program. However, a separate program element may be established to service the audio equipment within the language lab in addition to other audio equipment throughout the institution. If the service function is an integral part of the language lab, it would, of course, be part of that program element; however, if it exists separate from the language lab and provides such services across the institution, it should be carried within the audio/visual subprogram. Other examples include "dial access" centers, learning resource centers, and closed circuit television courses. Dial access centers and similar learning resource centers normally would be considered substitutes for library-related services and should be

carried within the audio/visual services subprogram. Closed-circuit television courses may be identified with a course program element and should be included as part of the program element. The facilities, equipment, and personnel associated with these functions would not be included within the audio/visual service subprogram unless they are providing a general service to multiple programs, as opposed to being an integral part of program elements within separate programs.

Computing Support (4.4) contains those program elements which have been established to provide computing support to the primary programs. Excluded from this subprogram is administrative data processing which is included as part of the Institutional Support program (6.0). Computer assisted instruction should be handled in the same manner as closed circuit television, i.e., it may be identified with a course program element and should be carried within that program element. Program elements within Computing Support are defined in the same manner as libraries, i.e., separately managed entities such as the engineering computer center.

Ancillary Support (4.5) are program elements which provide support services to the primary programs and are not appropriately classified within the previous subprograms. Examples of ancillary support include teaching hospitals and demonstration schools. Teaching hospitals should be assigned to the Health Professions discipline (1200), demonstration schools to Education (0800). Such ancillary support activities, when they exist, normally provide joint services to the Instruction, Organized Research, and Public Service programs.

4.0 ACADEMIC SUPPORT PROGRAM

4.1 LIBRARIES SUBPROGRAM

4.1.0000*

- 4.1.0100 Agriculture and Natural Resources
- 4.1.0200 Architecture and Environmental Design
- 4.1.0300 Area Studies
- 4.1.0400 Biological Sciences
- 4.1.0500 Business and Management
- 4.1.0600 Communications
- 4.1.0700 Computer and Information Sciences
- 4.1.0800 Education
- 4.1.0900 Engineering
- 4.1.1000 Fine and Applied Arts
- 4.1.1100 Foreign Languages
- 4.1.1200 Health Professions
- 4.1.1300 Home Economics
- 4.1.1400 Law
- 4.1.1500 Letters
- 4.1.1600 Library Science
- 4.1.1700 Mathematics
- 4.1.1800 Military Sciences
- 4.1.1900 Physical Sciences
- 4.1.2000 Psychology
- 4.1.2100 Public Affairs and Services
- 4.1.2200 Social Sciences
- 4.1.2300 Theology
- 4.1.4900 Interdisciplinary Studies
- 4.1.5000 Business and Commerce Technologies
- 4.1.5100 Data Processing Technologies
- 4.1.5200 Health Services and Paramedical Technologies
- 4.1.5300 Mechanical and Engineering Technologies
- 4.1.5400 Natural Science Technologies
- 4.1.5500 Public Service Related Technologies

4.1.9400 Other Academic Support

- 4.1.9401 Unassigned: May be used for Academic Support program elements which are established to provide library services and are not appropriately assigned to the above HEGIS discipline categories.
- .
- .
- .

4.1.9499

*Note: Use 0000 for those cases where a central unit services all disciplines, e.g., one central library.

4.0 ACADEMIC SUPPORT PROGRAM (continued)

4.2 MUSEUMS AND GALLERIES SUBPROGRAM

4.2.0000*

- 4.2.0100 Agriculture and Natural Resources
- 4.2.0200 Architecture and Environmental Design
- 4.2.0300 Area Studies
- 4.2.0400 Biological Sciences
- 4.2.0500 Business and Management
- 4.2.0600 Communications
- 4.2.0700 Computer and Information Sciences
- 4.2.0800 Education
- 4.2.0900 Engineering
- 4.2.1000 Fine and Applied Arts
- 4.2.1100 Foreign Languages
- 4.2.1200 Health Professions
- 4.2.1300 Home Economics
- 4.2.1400 Law
- 4.2.1500 Letters
- 4.2.1600 Library Science
- 4.2.1700 Mathematics
- 4.2.1800 Military Sciences
- 4.2.1900 Physical Sciences
- 4.2.2000 Psychology
- 4.2.2100 Public Affairs and Services
- 4.2.2200 Social Sciences
- 4.2.2300 Theology
- 4.2.4900 Interdisciplinary Studies
- 4.2.5000 Business and Commerce Technologies
- 4.2.5100 Data Processing Technologies
- 4.2.5200 Health Services and Paramedical Technologies
- 4.2.5300 Mechanical and Engineering Technologies
- 4.2.5400 Natural Science Technologies
- 4.2.5500 Public Service Related Technologies

4.2.9400 Other Academic Support

- 4.2.9401 Unassigned: May be used for Academic Support program elements which are established to provide exhibition or preservation services and are not appropriately assigned to the above HEGIS discipline categories.
- .
- .
- .
- 4.2.9499

*Note: Use 0000 for those cases where a central unit services all disciplines, e.g., one central museum.

4.0 ACADEMIC SUPPORT PROGRAM (continued)

4.3 AUDIO/VISUAL SERVICES SUBPROGRAM

4.3.0000*

- 4.3.0100 Agriculture and Natural Resources
- 4.3.0200 Architecture and Environmental Design
- 4.3.0300 Area Studies
- 4.3.0400 Biological Sciences
- 4.3.0500 Business and Management
- 4.3.0600 Communications
- 4.3.0700 Computer and Information Sciences
- 4.3.0800 Education
- 4.3.0900 Engineering
- 4.3.1000 Fine and Applied Arts
- 4.3.1100 Foreign Languages
- 4.3.1200 Health Professions
- 4.3.1300 Home Economics
- 4.3.1400 Law
- 4.3.1500 Letters
- 4.3.1600 Library Science
- 4.3.1700 Mathematics
- 4.3.1800 Military Sciences
- 4.3.1900 Physical Sciences
- 4.3.2000 Psychology
- 4.3.2100 Public Affairs and Services
- 4.3.2200 Social Sciences
- 4.3.2300 Theology
- 4.3.4900 Interdisciplinary Studies
- 4.3.5000 Business and Commerce Technologies
- 4.3.5100 Data Processing Technologies
- 4.3.5200 Health Services and Paramedical Technologies
- 4.3.5300 Mechanical and Engineering Technologies
- 4.3.5400 Natural Science Technologies
- 4.3.5500 Public Service Related Technologies

4.3.9400 Other Academic Support

- 4.3.9401 Unassigned: May be used for Academic Support program elements which are established to provide audio/visual services and are not appropriately assigned to the above HEGIS discipline categories.
- .
- .
- .

4.3.9499

*Note: Use 0000 for those cases where a central unit services all disciplines, e.g., one central audio/visual service.

4.0 ACADEMIC SUPPORT PROGRAM (continued)

4.4. COMPUTING SUPPORT SUBPROGRAM

4.4.0000*

- 4.4.0100 Agriculture and Natural Resources
- 4.4.0200 Architecture and Environmental Design
- 4.4.0300 Area Studies
- 4.4.0400 Biological Sciences
- 4.4.0500 Business and Management
- 4.4.0600 Communications
- 4.4.0700 Computer and Information Sciences
- 4.4.0800 Education
- 4.4.0900 Engineering
- 4.4.1000 Fine and Applied Arts
- 4.4.1100 Foreign Languages
- 4.4.1200 Health Professions
- 4.4.1300 Home Economics
- 4.4.1400 Law
- 4.4.1500 Letters
- 4.4.1600 Library Science
- 4.4.1700 Mathematics
- 4.4.1800 Military Sciences
- 4.4.1900 Physical Sciences
- 4.4.2000 Psychology
- 4.4.2100 Public Affairs and Services
- 4.4.2200 Social Sciences
- 4.4.2300 Theology
- 4.4.4900 Interdisciplinary Studies
- 4.4.5000 Business and Commerce Technologies
- 4.4.5100 Data Processing Technologies
- 4.4.5200 Health Services and Paramedical Technologies
- 4.4.5300 Mechanical and Engineering Technologies
- 4.4.5400 Natural Science Technologies
- 4.4.5500 Public Service Related Technologies

4.4.9400 Other Academic Support

- 4.4.9401 Unassigned: May be used for Academic Support program elements which are established to provide computational services and are not appropriately assigned to the above HEGIS discipline categories.
- .
- .
- 4.4.9499

*Note: Use 0000 for those cases where a central unit services all disciplines, e.g., one central scientific computer center.

4.0 ACADEMIC SUPPORT PROGRAM (continued)

4.5 ANCILLARY SUPPORT SUBPROGRAM

4.5.0000*

- 4.5.0100 Agriculture and Natural Resources
- 4.5.0200 Architecture and Environmental Design
- 4.5.0300 Area Studies
- 4.5.0400 Biological Sciences
- 4.5.0500 Business and Management
- 4.5.0600 Communications
- 4.5.0700 Computer and Information Sciences
- 4.5.0800 Education
- 4.5.0900 Engineering
- 4.5.1000 Fine and Applied Arts
- 4.5.1100 Foreign Languages
- 4.5.1200 Health Professions
- 4.5.1300 Home Economics
- 4.5.1400 Law
- 4.5.1500 Letters
- 4.5.1600 Library Science
- 4.5.1700 Mathematics
- 4.5.1800 Military Sciences
- 4.5.1900 Physical Sciences
- 4.5.2000 Psychology
- 4.5.2100 Public Affairs and Services
- 4.5.2200 Social Sciences
- 4.5.2300 Theology
- 4.5.4900 Interdisciplinary Studies
- 4.5.5000 Business and Commerce Technologies
- 4.5.5100 Data Processing Technologies
- 4.5.5200 Health Services and Paramedical Technologies
- 4.5.5300 Mechanical and Engineering Technologies
- 4.5.5400 Natural Science Technologies
- 4.5.5500 Public Service Related Technologies

4.5.9400 Other Academic Support

- 4.5.9401 Unassigned: May be used for Academic Support program elements which are established to provide ancillary support services and are not appropriately assigned to the above HEGIS discipline categories.
- .
- .
- .

4.5.9499

*Note: Use 0000 for those cases where a central unit services all disciplines.

5.0 Student Service Program

The Student Service program comprises all program elements related to the institution's student body, excluding the degree-related curriculum and student records. Within the Student Service program are the following five subprograms:

- 5.1 Social and Cultural Development
- 5.2 Supplementary Educational Service
- 5.3 Counseling and Career Guidance
- 5.4 Financial Aid
- 5.5 Student Support

Within each of these subprograms is the program category, "Other Student Service" (9500), which may be used for classifying those program elements which are appropriately assigned to the subprogram but do not fit the specifications of program categories within the subprogram. Program sector coding for "Other Student Service" is unassigned in order that institutions may structure the coding in a manner which best serves institutional needs. Program elements which are central to the subprogram should not be included within this category, e. g., a single placement bureau serves the entire campus. Such program elements should be entered at the subprogram level, using zeros in the program sector field to indicate the central nature of the program element.

Subsector codes may be used within the Student Service program to indicate program elements which are appropriately identified to the course level, e.g., lower division counseling.

Social and Cultural Development (5.1) are those program elements which have been established to provide for the student's social and cultural development outside of the degree curriculum.

The Student Development (7100) program category consists of the program elements established to provide for the social and physical development of the student outside the context of the formal academic program. Student Activities (7110) includes the program elements which are primarily supported and controlled by the student body, including student associations, student newspaper, dances, affairs, etc. Cultural Events (7120) includes those program elements outside of the curriculum program which have been established to expand the educational experience, e.g., convocations, special conferences, lectures, etc. Student Organizations (7130) would represent those program elements established to support the various student clubs, fraternities, and special interest groups. Recreation (7140) includes the program elements established to provide recreational opportunities for the general student body, e.g., swimming pool, golf course, bowling alleys, etc. Excluded from the Recreation program sector is intercollegiate athletics, intramural programs, and physical education curriculum activities. Intramural Athletics (7150) includes the program elements established to support an intramural program which involves formal participation by members of the student body.

Included within this subprogram is the program category "Inter-collegiate Athletics" (7200) which classifies program elements by the intercollegiate sport. It is assumed that the primary intent of inter-collegiate athletics is to enhance the student's development.

Supplementary Educational Service (5.2) includes all program elements which have been established to provide supplemental instruction outside of the normal academic program. The program elements within this subprogram should be classified according to the HEGIS discipline categories as listed in Appendix I; however, it may frequently be the case that such supplemental instruction is not directly identified by the HEGIS Taxonomy and should be coded in 95xx. Generally, program elements within the subprogram are established to provide remedial educational service as contrasted to instructional program elements which are a part of the degree curriculum. Non-credit courses which are part of the curricular requirements should be included within the Instruction program and indicated as preparatory within the subsector field.

Counseling and Career Guidance (5.3) contains program elements established to provide counseling services, career guidance, and placement services for the student body. Excluded from this subprogram is informal academic counseling provided by the faculty in relation to course assignments. In those cases where counseling or career guidance represents a portion of the faculty assignment, a pseudo-program element may be used to identify the institutional resources committed to this subprogram. Included in this subprogram are placement bureaus or similar program elements. Coding is based on the HEGIS discipline categories as listed in Appendix I. Note that the coding structure allows the further disaggregation of program elements by HEGIS discipline sector. However, the general case will most likely be that such program elements are identified to the more aggregate discipline category level, e.g., Law placement, College of Education counseling center.

Financial Aid (5.4) consists of program elements established to provide financial aid and assistance to students. Coding for this subprogram is based on the HEGIS discipline categories listed in Appendix I. As in the Counseling and Career Guidance subprogram, the coding structure is such that program elements may be disaggregated to this HEGIS discipline sector level at the option of the institution; however, the general case will most likely be that financial aid program elements are associated with more aggregate HEGIS discipline categories, e.g., Engineering School Financial Aid office.

Student Support (5.5) contains program elements established within the institution to provide convenience services to the student body or services to special student groups. For many institutions, it will often be difficult to discriminate between convenience services provided for the benefit of students and those provided for faculty and staff, e.g., a central cafeteria for both. In such instances, the program element will typically be identified to the Student Support subprogram unless the primary intent is clearly to provide services for the faculty and staff.

The Supporting Service (7300) program category consists of program sectors related to housing, health, and other convenience services for the student which are substitutes for similar services normally available within the community. Food Services (7310) are program elements such as the cafeteria, snack bar, food and drink vending machine operations, etc. Included in Food Services are dining halls associated with the dormitories, i.e., exclusively for the use of those students living in the dormitory. Health Services (7320) are the various program elements established to provide

medical services including dental and psychiatric care. Housing Services (7330) include the program elements associated with the dormitories and housing office. Retail Services and Concessions (7340) are those program elements created to provide retail services (excluding food services) to the students in areas such as the book store, barber shop, etc.

The Special Student Service (7400) program category contains the program elements which have been established to provide various services to special groups of students. Veterans (7410) includes program elements established to provide information services and processing of forms related to veterans affairs. Foreign Students (7420) includes program elements established within the institution to provide special services to foreign students, e.g., foreign student offices, but excluding special, remedial, or supplemental educational services. The program sector for Disadvantaged (7430) will include those elements created to handle special problems associated with disadvantaged students, excluding financial aid services and supplemental educational services. Physically Handicapped (7440) will contain program elements established to provide services for the physically handicapped, exclusive of health care.

5.0 STUDENT SERVICE PROGRAM

5.1 SOCIAL AND CULTURAL DEVELOPMENT SUBPROGRAM

5.1.7100 Student Development

(Program Category)

5.1.7110 Student Activities

(Program Sector)

5.1.7120 Cultural Events

5.1.7130 Student Organizations

5.1.7140 Recreation

5.1.7150 Intramural Athletics

5.1.7160 Reserved

. for
. future
. use

5.1.7180

5.1.7190 Unassigned: May be used for additional
. program sectors related to
. student development.
.

5.1.7199

5.1.7200 Intercollegiate Athletics

5.1.7201 Baseball

5.1.7202 Basketball

5.1.7203 Boxing

5.1.7204 Diving

5.1.7205 Fencing

5.1.7206 Football

5.1.7207 Golf

5.1.7208 Gymnastics

5.1.7209 Ice Hockey

5.1.7210 Lacrosse

5.1.7211 Rowing

5.1.7212 Rugby

5.1.7213 Skiing

5.1.7214 Soccer

5.1.7215 Swimming

5.1.7216 Tennis

5.1.7217 Track and Field

5.1.7218 Wrestling

5.1.7219 Reserved

. for
. future
. use

5.1.7249

5.1.7250 Unassigned: May be used for additional
. program sectors related to
. intercollegiate athletics.
.

5.1.7299

5.0 STUDENT SERVICE PROGRAM (continued)

5.1 SOCIAL AND CULTURAL DEVELOPMENT SUBPROGRAM (continued)

5.1.9500 Other Student Service

5.1.9501 Unassigned: May be used for Student Service program
elements which have been established to
enhance the student's social and cultural
development and are not appropriately
assigned to the above program sectors.

5.1.9599

5.0 STUDENT SERVICE PROGRAM (continued)

5.2 SUPPLEMENTARY EDUCATIONAL SERVICE SUBPROGRAM

5.2.0000*

- 5.2.0100 Agriculture and Natural Resources
- 5.2.0200 Architecture and Environmental Design
- 5.2.0300 Area Studies
- 5.2.0400 Biological Sciences
- 5.2.0500 Business and Management
- 5.2.0600 Communications
- 5.2.0700 Computer and Information Sciences
- 5.2.0800 Education
- 5.2.0900 Engineering
- 5.2.1000 Fine and Applied Arts
- 5.2.1100 Foreign Languages
- 5.2.1200 Health Professions
- 5.2.1300 Home Economics
- 5.2.1400 Law
- 5.2.1500 Letters
- 5.2.1600 Library Science
- 5.2.1700 Mathematics
- 5.2.1800 Military Sciences
- 5.2.1900 Physical Sciences
- 5.2.2000 Psychology
- 5.2.2100 Public Affairs and Services
- 5.2.2200 Social Sciences
- 5.2.2300 Theology
- 5.2.4900 Interdisciplinary Studies
- 5.2.5000 Business and Commerce Technologies
- 5.2.5100 Data Processing Technologies
- 5.2.5200 Health Services and Paramedical Technologies
- 5.2.5300 Mechanical and Engineering Technologies
- 5.2.5400 Natural Science Technologies
- 5.2.5500 Public Service Related Technologies

5.2.9500 Other Student Service

- 5.2.9501 Unassigned: May be used for Student Service program
elements which have been established to
provide supplementary educational services
and are not appropriately assigned to
the HEGIS discipline categories and sectors
- 5.2.9599 as listed in Appendices I and II.

*Note: Use 0000 for those cases where a central unit services all disciplines, e.g., a central remedial education service.

5.0 STUDENT SERVICE PROGRAM (continued)

5.3 COUNSELING AND CAREER GUIDANCE SUBPROGRAM

5.3.0000*

- 5.3.0100 Agriculture and Natural Resources
- 5.3.0200 Architecture and Environmental Design
- 5.3.0300 Area Studies
- 5.3.0400 Biological Sciences
- 5.3.0500 Business and Management
- 5.3.0600 Communications
- 5.3.0700 Computer and Information Sciences
- 5.3.0800 Education
- 5.3.0900 Engineering
- 5.3.1000 Fine and Applied Arts
- 5.3.1100 Foreign Languages
- 5.3.1200 Health Professions
- 5.3.1300 Home Economics
- 5.3.1400 Law
- 5.3.1500 Letters
- 5.3.1600 Library Science
- 5.3.1700 Mathematics
- 5.3.1800 Military Sciences
- 5.3.1900 Physical Sciences
- 5.3.2000 Psychology
- 5.3.2100 Public Affairs and Services
- 5.3.2200 Social Sciences
- 5.3.2300 Theology
- 5.3.4900 Interdisciplinary Studies
- 5.3.5000 Business and Commerce Technologies
- 5.3.5100 Data Processing Technologies
- 5.3.5200 Health Services and Paramedical Technologies
- 5.3.5300 Mechanical and Engineering Technologies
- 5.3.5400 Natural Science Technologies
- 5.3.5500 Public Service Related Technologies

5.3.9500 Other Student Service

- 5.3.9501 Unassigned: May be used for Student Service program elements which have been established to provide counseling and career guidance services and are not appropriately assigned to the above HEGIS discipline categories.
- .
- .
- .
- 5.3.9599

*Note: Use 0000 for those cases where a central unit services all disciplines, e.g., one central counseling bureau.

5.0 STUDENT SERVICE PROGRAM (continued)

5.4 FINANCIAL AID SUBPROGRAM

5.4.0000*

5.4.0100 Agriculture and Natural Resources
5.4.0200 Architecture and Environmental Design
5.4.0300 Area Studies
5.4.0400 Biological Sciences
5.4.0500 Business and Management
5.4.0600 Communications
5.4.0700 Computer and Information Sciences
5.4.0800 Education
5.4.0900 Engineering
5.4.1000 Fine and Applied Arts
5.4.1100 Foreign Languages
5.4.1200 Health Professions
5.4.1300 Home Economics
5.4.1400 Law
5.4.1500 Letters
5.4.1600 Library Science
5.4.1700 Mathematics
5.4.1800 Military Sciences
5.4.1900 Physical Sciences
5.4.2000 Psychology
5.4.2100 Public Affairs and Services
5.4.2200 Social Sciences
5.4.2300 Theology
5.4.4900 Interdisciplinary Studies
5.4.5000 Business and Commerce Technologies
5.4.5100 Data Processing Technologies
5.4.5200 Health Services and Paramedical Technologies
5.4.5300 Mechanical and Engineering Technologies
5.4.5400 Natural Science Technologies
5.4.5500 Public Service Related Technologies

5.4.9500 Other Student Service

5.4.9501 Unassigned: May be used for Student Service program
elements which have been established
to provide financial aid for students
and are not appropriately assigned to
the above HEGIS discipline categories.
5.4.9599

*Note: Use 0000 for those cases where a central unit services
all disciplines, e.g., one central financial aid office.

5.0 STUDENT SERVICE PROGRAM (continued)

5.5 STUDENT SUPPORT SUBPROGRAM

5.5.7300 Supporting Service

(Program Category)

5.5.7310 Food Services

(Program Sector)

5.5.7320 Health Services

5.5.7330 Housing Services

5.5.7340 Retail Services and Concessions

5.5.7350 Reserved

. for
. future
. use

5.5.7380

5.5.7390 Unassigned: May be use for additional program
. sectors related to convenience
. services for students.
.

5.5.7399

5.5.7400 Special Student Service

5.5.7410 Veterans

5.5.7420 Foreign Students

5.5.7430 Disadvantaged

5.5.7440 Physically Handicapped

5.5.7450 Reserved

. for
. future
. use

5.5.7480

5.5.7490 Unassigned: May be used for additional program sectors
. related to providing services to special
. groups of students.
.

5.5.7499

5.5.9500 Other Student Service

5.5.9501 Unassigned: May be used for program elements which
. have been established to provide student
. services and are not appropriately assigned
. to the above program sectors.

5.5.9599

6.0 Institutional Support Program

The Institutional Support program consists of those activities within the institution which provide campus-wide support to the other programs. These program elements have been classified within the following seven subprograms:

- 6.1 Executive Management
- 6.2 Fiscal Operations
- 6.3 General Administrative Services
- 6.4 Logistical Services
- 6.5 Physical Plant Operations
- 6.6 Faculty and Staff Services
- 6.7 Community Relations

Excluding the Physical Plant Operations subprogram (6.5), each of the Institutional Support subprograms classifies the program elements within either the Central Operations (8100) program category, or the Functional Operations (8200) program category. The purpose of this distinction is to discriminate between those program elements which typically are not influenced by program changes, and those program elements which tend to vary as a function of staff, students, or programs. This distinction between central operation and functional operation will be useful for modeling and analysis, particularly for determining allocation procedures and developing unit cost data.

Because of the diverse nature of institutional support programs in higher education, the listing of the program sectors contains examples of the program elements which properly should be classified within the program sector. Each of the program categories within the Institutional Support

program contains a block of unassigned numbers which may be used for any additional program sectors that are appropriately classified within the program category. In addition, each subprogram contains the program category, "Other Institutional Support" (9600), to be used for program elements which exist within the subprogram, but are not appropriately assigned to the program categories listed within the subprogram. As with the other programs within the Program Classification Structure, the classification of program elements within the Institutional Support program should be based on the concept of primary intent, i.e., the primary purpose for establishing and maintaining the program element.

Executive Management (6.1) consists of all central executive-level program elements and other program elements concerned with the management and long-range planning of the entire institution, as contrasted to any one program within the institution. Included within this subprogram are such central operations as legal services and executive direction, which consists of the governing board, the chief executive officer, and the senior executive officers (e.g., the vice-presidents). Planning and Programming (8120) are those central operations related to the management and planning for the institution, including analytical studies, institutional research, etc.

Fiscal Operations (6.2) includes those central operations related to fiscal control, investments, and functional program elements related to the fiscal operations of the institution.

(
General Administrative Services (6.3) includes program elements which provide central administrative services to the Institutional Support program, e.g., administrative data processing, and functional program elements related to student records and staff personnel.

Logistical Services (6.4) contains program elements which provide procurement services, supply and maintenance of provisions, and the orderly movement of support materials for the campus operation. Included within Logistical Services are central program elements related to the environmental health and safety of the staff and students.

(
Physical Plant Operations (6.5) are those program elements established to provide services related to the campus grounds and facilities. The Maintenance Operations (8300) program category includes program elements related to maintaining the existing grounds and facilities. Included within the Maintenance Operations program category are those program elements which have been established to provide institutionally operated utility services, e.g., a campus heating plant. The Plant Expansion and Modification (8400) program category contains program elements which represent institutional resources committed to creating new facilities or modifying existing facilities and grounds. Included within this program category are the program elements established by the institution to assist in expansion and modification functions, e.g., campus architects and engineers, construction office, etc.

(
Faculty and Staff Services (6.6) includes the program elements established to provide support services for the faculty and staff. Coding for the program sectors within the subprogram is based on the codes used

in the Student Support subprogram (5.5), and includes those program elements which meet the test that the primary intent for their establishment is to provide support and convenience services to the faculty and staff. As noted previously, in those instances where the primary intent is not obvious, e.g., a central cafeteria, the program element should be classified within the Student Support subprogram.

Community Relations (6.7) are those program elements which have been established to maintain relationships with the general community, the institution's alumni, or other constituents; and activities related to development and fund raising. Excluded from this subprogram are the program elements established primarily to provide public service to the community.

6.0 INSTITUTIONAL SUPPORT PROGRAM

6.1 EXECUTIVE MANAGEMENT SUBPROGRAM

6.1.8100 Central Operations

(Program Category)

6.1.8110 Executive Direction
e.g., Governing Board
Chief Executive
Senior Executive Officers

(Program Sector)
(Program Element)

6.1.8120 Planning and Programming
e.g., Analytical Studies
Budget Planning
Institutional Research
Physical Planning
Planning Committees
Policy Committees
Academic Senate

6.1.8130 Legal Services
e.g., Attorney
General Counsel
Patent Counsel

6.1.8190 Unassigned: May be used for additional
program sectors related to
central operations.

6.1.8199

6.1.9600 Other Institutional Support

6.1.9601 Unassigned: May be used for Institutional Support
program elements which have been
established to provide executive
management services and are not
appropriately assigned to the above
program sectors.

6.1.9699

6.0 INSTITUTIONAL SUPPORT PROGRAM (continued)

6.2 FISCAL OPERATIONS SUBPROGRAM

6.2.8100 Central Operations

(Program Category)

6.2.8140 Fiscal Control

(Program Sector)

e.g., Audit
Budget Control
Controller

(Program Element)

6.2.8150 Investments

e.g., Endowment Management
Investment Office

6.2.8190 Unassigned: May be used for additional
. program sectors related to
. central operations.
.

6.2.8199

6.2.8200 Functional Operations

6.2.8210 Fiscal Operations

e.g., Accounting
Bursar
Cashier
Contracts & Grants
Payroll

6.2.8290 Unassigned: May be used for additional
. program sectors related to
. functional operations.
.

6.2.8299

6.2.9600 Other Institutional Support

6.2.9601 Unassigned: May be used for Institutional Support
. program elements which have been
. established to provide fiscal services
. and are not appropriately assigned
to the above program sectors.

6.2.9699

6.0 INSTITUTIONAL SUPPORT PROGRAM (continued)

6.3 GENERAL ADMINISTRATIVE SERVICES SUBPROGRAM

6.3.8100 Central Operations (Program Category)

6.3.8160 Administrative Support (Program Sector)
e.g., Administrative Data Processing (Program Element)
Management Systems
Central Files

6.3.8165 Space Management
e.g., Room Scheduling
Space Allocation

6.3.8190 Unassigned: May be used for additional
. program sectors related to
. central operations.
.

6.3.8199

6.3.8200 Functional Operations

6.3.8220 Student Admissions & Records
e.g., Undergraduate Admissions
Graduate Admissions
Foreign Admissions and Evaluation
Transfer Evaluations
Registration
Records
Transcripts
Degree Certification
Publications
Statistics

6.3.8230 Employee Personnel & Records
e.g., Personnel
Insurance
Retirement
Faculty Records
Recruitment

6.3.8290 Unassigned: May be used for additional
. program sectors related to
. functional operations.
.

6.3.8299

6.3.9600 Other Institutional Support

6.3.9601 Unassigned: May be used for Institutional Support
. program elements which have been
. established to provide general
. administrative services and are not
appropriately assigned to the above
6.3.9699 program sectors.

6.0 INSTITUTIONAL SUPPORT PROGRAM (continued)

6.4 LOGISTICAL SERVICES SUBPROGRAM

6.4.8100 Central Operations (Program Category)

6.4.8170 Environmental Health & Safety (Program Sector)
e.g., Police (Program Element)
Campus Security
Fire Protection
Environmental Safety

6.4.8190 Unassigned: May be used for additional
. program sectors related to
. central operations.
.

6.4.8199

6.4.8200 Functional Operations

6.4.8240 Purchasing and Materials
e.g., Purchasing
Receiving/Shipping
Warehousing & Stores
Equipment Pool
Inventory
Property Management

6.4.8250 Communication & Services
e.g., Mail & Distribution
Telephone & Telegraph
Printing
Reproduction

6.4.8260 Transportation Services
e.g., Airport
Campus Transportation
Garage
Motor Pool
Parking

6.4.8290 Unassigned: May be used for additional
. program sectors related to
. functional operations.
.

6.4.8299

6.4.9600 Other Institutional Support

6.4.9601 Unassigned: May be used for Institutional Support
. program elements which have been
. established to provide logistical
. services and are not appropriately
assigned to the above program sectors.

6.4.9699

6.0 INSTITUTIONAL SUPPORT PROGRAM (continued)

6.5 PHYSICAL PLANT OPERATIONS SUBPROGRAM

6.5.8300 Maintenance Operations

(Program Category)

6.5.8310 Utility Plants
e.g., Electricity
Heating

(Program Sector)
(Program Element)

6.5.8320 Building Maintenance
6.5.8330 Grounds Maintenance
6.5.8340 Custodial Services
6.5.8350 Reserved

. for
. future
. use

6.5.8380

6.5.8390 Unassigned: May be used for additional program
. sectors related to maintenance
. operations.
.

6.5.8399

6.5.8400 Plant Expansion & Modification

6.5.8410 New Building Construction
6.5.8420 Facility Remodeling
6.5.8430 Landscaping & Grounds Modification
6.5.8440 Reserved

. for
. future
. use

6.5.8480

6.5.8490 Unassigned: May be used for additional program
. sectors related to plant expansion
. and modification.
.

6.5.8499

6.5.9600 Other Institutional Support

6.5.9601 Unassigned: May be used for Institutional Support
. program elements which have been
. established to provide support for
. the campus physical plant and are
6.5.9699 not appropriately assigned to the
above program sectors.

6.0 INSTITUTIONAL SUPPORT PROGRAM (continued)

6.6 FACULTY & STAFF SERVICES SUBPROGRAM

6.6.7300 Supporting Service

(Program Category)

6.6.7310 Food Services

(Program Sector)

6.6.7320 Health Services

6.6.7330 Housing Services

6.6.7340 Retail Services & Concessions

6.6.7350 Reserved

. for
. future
. use

6.6.7380

6.6.7390 Unassigned: May be used for additional program sectors
. related to convenience services for the
. faculty and staff of the institution.
.

6.6.7399

6.6.9600 Other Institutional Support

6.6.9601 Unassigned: May be used for Institutional Support
. program elements which have been
. established to provide services for
. faculty and staff and are not appropriately
assigned to the above program sectors.

6.6.9699

6.0 INSTITUTIONAL SUPPORT PROGRAM (continued)

6.7 COMMUNITY RELATIONS SUBPROGRAM

6.7.8100 Central Operations

(Program Category)

6.7.8175 Alumni Relations

(Program Sector)

e.g., Alumni Office
Alumni Publications
Alumni Club

(Program Element)

6.7.8180 Community Relations

e.g., Commencement
Community Affairs
News Service
Public Relations
Public Information
School Relations
State Relations
Federal Relations

6.7.8185 Development

e.g., Campus Foundation
Fund Raising

6.7.8190 Unassigned: May be used for additional
program sectors related to
central operations.

6.7.8199

6.7.9600 Other Institutional Support

6.7.9601 Unassigned: May be used for Institutional Support
program elements which have been established
to maintain relations with the institution's
constituency.

6.7.9699

7.0 Independent Operations Program

The Independent Operations program provides the capability to classify those program elements which are independent of, or unrelated to, the primary missions of the institution. The Independent Operations program consists of two subprograms.

7.1 Institutional Operations

7.2 Outside Agencies

Institutional Operations (7.1) are those program elements which represent operations owned or controlled by the institution and are foreign to, or independent of, the institution's mission, e.g., the operation of commercial rental property for income. The program sector codes within the Institutional Operations program category (9700) are unassigned to permit the classification of the various unique institutional assets or program elements in a manner consistent with the institutional structure.

Outside Agencies (7.2) are those program elements which are controlled or operated by outside agencies, but are housed or otherwise supported by the institution. An example would be the Western Interstate Commission for Higher Education, which has its offices on the campus of the University of Colorado. Coding within the Outside Agencies program category (9800) is unassigned to permit institutional classification of the various resources (generally, facilities and related services) committed to such external program elements.

7.0 INDEPENDENT OPERATIONS PROGRAM

7.1 INSTITUTIONAL OPERATIONS SUBPROGRAM

7.1.9700 Institutional Operations

(Program Category)

7.1.9701 Unassigned: May be used for Independent
Operations program elements which
are owned or controlled by
the institution.

(Program Sector)

7.1.9799

7.2 OUTSIDE AGENCIES SUBPROGRAM

7.2.9800 Outside Agencies

7.2.9801 Unassigned: May be used for identifying
external program elements
which are housed or otherwise
supported by the institution.

7.2.9899

SECTION V

Program Classification Structure

Glossary of Program Classification Structure Terms

Term	PCS Code	Page Ref.	Description
Academic Support Program	4.0	1-32 4-1	A support program. Those program elements which directly assist the academic functions of the institution.
Agriculture Extension Service	3.5	3-16	A subprogram within the public service program. Those program elements utilized in support of the normally autonomous and self-contained subsystem of organized agriculture extension.
Analytical Model	n/a	1-8	A mathematical model in which all functional relationships can be expressed in closed form and the parameters fixed in advance. ⁴³
Ancillary Support	4.5	1-33 4-4	A subprogram within the academic support program. Those program elements which provide support services to the primary programs and are not appropriately classified within the various academic support subprograms.
Audio/Visual Services	4.3	4-3	A subprogram within the academic support program. Those program elements associated with providing audio and/or visual support services.
Campus	n/a	2-1 2-3	The highest level of aggregation in the Program Classification Structure.

Term	PCS Code	Page Ref.	Description
Campus Community Service	3.4	3-16	A subprogram within the public service program. Those program elements which have been established to provide general public services to the community at large or special sectors within the community. Organized extension community service (PCS Code 3.3) and all instructional services are excluded.
Central Operations	8100	4-21	A program category. Those program elements in the institutional support program (excluding physical plant operations) that typically are not influenced by program changes.
Common Interest Groups	7x	2-7 3-15	A subsector within the public service program. A target clientele which is a specific profession or special groups, e.g., continuing medical education, C.P.A. review, etc.
Community Relations	6.7	4-24	A subprogram within the institutional support program. Those program elements which have been established to maintain relationships with the general community, institution alumni, or other constituents; and activities related to development and fund raising.
Community Sectors	8x	2-7 3-15	A subsector within the public service program. A target clientele which is a well-defined geographic or political subdivision such as particular socio-economic classes, specific neighborhoods or communities, etc.
Component Measures	n/a	2-3 2-8	Component measures, although not presently defined, are the indicators of resource utilization and output associated with the activities of the program element. Component measures will reflect quantitative measures of expenditures, revenues, resources, activities and outputs.

Term	PCS Code	Page Ref.	Description
Computing Support	4.4	1-32 4-4	A subprogram within the academic support program. Those program elements which have been established to provide computing support. Excludes administrative data processing.
Cost/Benefit Analysis	n/a	1-6	An analytical approach to solving problems of choice requiring the definition of objectives, identification of alternative ways of achieving each objective, and the determination of which alternative yields the maximum benefit for a given cost or yields a given benefit at the lowest cost. ⁴⁴
Counseling and Career Guidance	5.3	4-12	A subprogram within the student service program. Those program elements established to provide counseling services, career guidance, and placement services for the student body.
Course Level	n/a	2-6	Course level refers to the level of offering for instructional courses (normally associated with student level) but may be used in other programs to differentiate various student groups.
Crosswalk	n/a	1-25 A-31	The expression of the relationship between the program structure and the accounting structure. ⁴⁴
Cultural Events	7120	4-11	A program sector. Those program elements outside of the curriculum program which have been established to expand the educational experience, e.g., convocations, special conferences, lectures, etc.
Degree Program	n/a	1-16	The mix of instructional offerings in various disciplines which comprise the curriculum for a specific academic degree. See Field of Study.

Term	PCS Code	Page Ref.	Description
Departmental Continuing Education	3.1	3-16	A subprogram within the public service program. Those program elements that are managed within the academic departments to provide non-credit instructional services to members of the community other than matriculated students.
Disadvantaged	7430	4-14	A program sector. Those program elements created to handle special problems associated with disadvantaged students, excluding financial aid services and supplemental educational services.
Discipline Instruction	n/a	1-16	The aggregate of instructional offerings in a specific academic discipline, e.g., all mathematics instruction.
Executive Management	6.1	4-22	A subprogram within the institutional support program. Those central executive-level program elements and other program elements concerned with the management and long-range planning of the entire institution, as contrasted to any one program within the institution.
Experimental Instruction	1.4	3-3	A subprogram within the instruction program. Those temporary instructional program elements which are experimental or innovative and represent a marked departure from the standard curriculum.
Extension Instruction (for credit)	1.3	3-3	A subprogram within the instruction program. Those instructional program elements that are managed by an extension division (or similar agency within the institution) which are applicable toward a formal degree or certificate.
Faculty and Staff Services	6.6	4-23	A subprogram within the institutional support program. The program elements established to provide support services for the faculty and staff.

Term	PCS Code	Page Ref.	Description
Field of Study	n/a	1-14	Field of Study refers to the student major area of study. May be used to refer to the mix of courses which comprise a particular degree. See Degree Program.
Financial Aid	5.4	4-13	A subprogram within the student service program. The program elements established to provide financial aid and assistance to students.
Fiscal Operations	6.2	4-22	A subprogram within the institutional support program. Those central operations related to fiscal control and investments and functional program elements related to the fiscal operations of the institution.
Food Services	7310	4-13	A program sector. Those program elements related to the dispensing of food, e.g., cafeteria, snack bar, food and drink vending machine operations, dormitory dining halls, etc.
Foreign Students	7420	4-14	A program sector. Those program elements established within the institution to provide special services to foreign students, e.g., foreign student office, but excluding special, remedial, or supplemental educational services.
Functional Operations	8200	4-21	A program category. Those program elements in the institutional support program (excluding physical plant operations) that tend to vary as a function of staff, students, or programs.
General Administrative Services	6.3	4-23	A subprogram within the institutional support program. The program elements which provide administrative services, e.g., administrative data processing, student records, personnel.
Health Services	7320	4-13	A program sector. Those program elements established to provide medical services including dental and psychiatric care.

Term	PCS Code	Page Ref.	Description
HEGIS	n/a	1-15	An abbreviation for the Higher Education General Information Survey conducted annually by the National Center for Educational Statistics.
Housing Services	7330	4-14	A program sector. Those program elements associated with the dormitories and housing.
Independent Operations Program	7.0	1-34 4-32	A support program. Those program elements which are independent of, or unrelated to, the basic missions of the institution.
Individual or Project Research	2.2	3-9	A subprogram within the organized research program. Those research program elements which are normally managed within the academic departments, and which have been created as a result of a contract, grant, or specific allocation of resources to conduct a study or investigation of a specified scope.
Individuals	6x	2-7 3-15	A subsector within the public service program. A target clientele consisting of individuals within the community at large, as contrasted to specific interest groups or community sectors.
Induced Course-Load Matrix (ICLM)	n/a	1-19	A matrix which describes the distribution of the average load placed on the instruction program by students pursuing various degrees. The matrix is usually four-dimensional: Field of Study by Student Level and Discipline by Course Level.
Institutes and Research Centers	2.1	3-9	A subprogram within the organized research program. Those research-related program elements which are part of a formal research organization created to manage a number of research efforts.
Institutional Operations	7.1	4-32	A subprogram within the independent operations program. Those program elements which represent operations owned or controlled by the institution and which are foreign to, or independent of, the institution's mission.

Term	PCS Code	Page Ref.	Description
Institutional Support Program	7.0	1-34 4-21	A support program consisting of those activities within the institution which provide campus-wide support to the other programs.
Instruction Program	1.0	1-30 3-1	A primary program consisting of all formal instructional activities in which a student engages to earn credit toward a degree or certificate.
Intercollegiate Athletics	7200	4-11	A program category. Those program elements established to support intercollegiate sports events.
Intramural Athletics	7150	4-11	A program sector. Those program elements established to support an intramural program which involves formal participation by members of the student body.
Libraries	4.1	4-2	A subprogram within the academic support program. Those activities which directly support the operation of a cataloged or otherwise classified collection of published materials.
Logistical Services	6.4	4-23	A subprogram within the institutional support program. Those program elements which provide procurement services, supply and maintenance of provisions, and orderly movement of support materials for the campus operation including those central program elements related to the environment health and safety of the campus community.
Maintenance Operations	8300	4-23	A program category. Those program elements which have been established to provide institutionally operated utility services, e.g., a campus heating plant.
Museums and Galleries	4.2	4-2	A subprogram within the academic support program. Those program elements established to provide services related to the collection, preservation and exhibition of historical materials, art objects, scientific displays, etc.

Term	PCS Code	Page Ref.	Description
Objectives	n/a	1-2	Goals or results that the decision-maker seeks to attain; hence, the end product or output of a program. 44
Other Academic Support	9400	4-2	A miscellaneous program category to be used for academic support program elements which are not central to the subprogram nor appropriately assigned to the HEGIS discipline categories.
Other Institutional Support	9600	4-22	A miscellaneous program category to be used for institutional support program elements which are not appropriately assigned to the program categories listed within the subprogram.
Other Instruction	9100	3-2	A miscellaneous program category to be used for instruction program elements which do not fit within the specifications of the HEGIS disciplines.
Other Organized Research	9200	3-8	A miscellaneous program category to be used for research program elements that are not appropriately identified with the HEGIS discipline categories.
Other Public Service	9300	3-15	A miscellaneous program category to be used for public service program elements which are not appropriately identified with the HEGIS discipline categories or sectors.
Other Student Service	9500	4-10	A miscellaneous program category to be used for student service program elements which do not fit the specifications of program categories within the subprogram.
Organized Extension Community Service	3.3	3-16	A subprogram within the public service program. Those program elements which have been established within the formal extension organization to provide general community services. Excludes instructional activities.

Term	PCS Code	Page Ref.	Description
Organized Extension Continuing Education	3.2	3-16	A subprogram within the public service program. Those program elements within the formal extension organization which have been established to provide continuing educational services to members of the community other than matriculated students.
Organized Research Program	2.0	1-30 3-8	A primary program consisting of those research-related program elements established within the institution under the terms of agreement with agencies external to the institution or separately budgeted and conducted with internal funds.
Outside Agencies	7.1	4-32	A subprogram within the independent operations program. Those program elements which are controlled or operated by outside agencies, but are housed or otherwise supported by the institution.
PCS	n/a	--	An abbreviation of Program Classification Structure.
Physical Plant Operations	6.5	4-23	A subprogram within the institutional support program. Those program elements established to provide services related to the campus grounds and facilities.
Physically Handicapped	7440	4-14	A program sector. Those program elements established to provide services for the physically handicapped exclusive of health care.
Planning and Programming	8120	4-22	A program sector. Those program elements within central operations that are related to management and planning for the institution, including analytical studies and institutional research.

Term	PCS Code	Page Ref.	Description
Planning, Programming, and Budgeting System (PPBS)	n/a	1-5	A management system involving the selection or identification of the overall, long-range objectives of the organization and the systematic analysis of various courses of action in terms of relative costs and benefits (Planning); deciding on specific courses of action to be followed in carrying out planning decisions (Programming); and translating planning and programming decisions into specific financial plans (Budgeting). ⁴⁴
Plant Expansion and Modification	8400	4-23	A program category. Those program elements which represent institutional resources committed to creating new facilities or modifying existing facilities or grounds.
PPBS	n/a	1-5	An abbreviation for Planning, Programming, and Budgeting System.
Primary Programs	1.0 2.0 3.0	1-28 2-4 3-1	A stratum of the Program Classification Structure hierarchy. The primary programs contain the activities directly related to the accomplishment of the missions of higher education.
Program	n/a	2-1 2-4	A stratum in the PCS hierarchy. The major institutional missions and related support objectives. The PCS is based on seven programs.
Program Budgeting	n/a	1-4	A resource allocation technique which facilitates the organization and identification of the activities of an institution in terms of its objectives, displays the cost of these activities over an extended time frame, and relates these activities and their costs to the outputs of the institution's programs. The budgeting aspect of a Planning Programming and Budgeting System.

Term	PCS Code	Page Ref.	Description
Program Category	n/a	2-1 2-5	A stratum of the Program Classification Structure hierarchy. Program category is an implicitly defined aggregation of program sectors which may be used to sum related program elements across program lines.
Program Element	n/a	1-27 2-3 2-7	The lowest level of aggregation in the Program Classification Structure hierarchy. The program element represents the smallest unique collection of resources that are output producing activities, i.e., a collection of resources, technologies, and policies which, through their integrated operation, produce goods or services that are of value to the organization because they contribute to the achievement of an institutional objective.
Program Sector	n/a	2-1 2-5	A collection of homogeneous elements; a subdivision of the program which classifies program elements relative to their objectives.
Program Structure	n/a	2-1	A classification system that categorizes the activities of an organization according to their relationship to the organization's objectives.
Program Subsector	n/a	2-3 2-6	A stratum of the Program Classification Structure hierarchy. Subsector refers to a sub-grouping of program elements, primarily intended to identify the level of course for instruction program elements, but may be used in other programs at the option of the institution.
Public Service Program	3.0	1-31 3-13	A primary program. Those program elements within the institution which produce outputs directed toward the benefit of the community or individuals residing within the geographic service area of the institution.

Term	PCS Code	Page Ref.	Description
Recreation	7140	4-11	A program sector. Those program elements established to provide recreational opportunities for the general student body, e.g., swimming pool, golf course, bowling alley, etc.
Regular Instruction	1.1	3-2	A subprogram within the instruction program. Those instructional program elements operating during the standard academic term as defined by the institutions and which are part of a formal degree or certificate curriculum.
Retail Services and Concessions	7340	4-14	A program sector. Those program elements created to provide retail services in areas such as the book store, barber shop, etc.
RRPM	n/a	1-10	An abbreviation for Resource Requirements Prediction Model. RRPM is a generalized analytical model designed to estimate the resource requirements associated with operating an institution of higher education over a specified period of time.
Social and Cultural Development	5.1	4-10	A subprogram within the student service program. Those program elements which have been established to provide for the student's social and cultural development outside of the degree curriculum.
Special Session Instruction	1.2	3-3	A subprogram within the instruction program. Those instructional program elements which earn credit toward a formal degree or certificate and are offered during a period that is not common with the institution's regular term.
Special Student Service	7400	4-14	A program category. Those program elements which have been established to provide services to special groups of students, e.g., veterans.
Student Activities	7110	4-11	A program sector. Those program elements which are primarily supported and controlled by the student body, including student associations, student newspaper, dances, affairs, etc.

Term	PCS Code	Page Ref.	Description
Student Development	7100	4-11	A program category. Those program elements established to provide for the social and physical development of the student outside the context of the formal academic program.
Student Organizations	7130	4-11	A program sector. Those program elements established to support the various student clubs, fraternities, and special interest groups.
Student Service Program	5.0	1-33 4-10	A support program. Those program elements related to the institution's student body, excluding the degree-related curriculum and student records.
Student Support	5.5	4-13	A subprogram within the student service program. Those program elements established within the institution to provide convenience services to the student body or services to special student groups.
Subprogram	n/a	2-1 2-4	A stratum of the Program Classification Structure hierarchy. A subprogram is an aggregation level that structures program sectors into subsets of the major missions of the institution.
Supplementary Educational Service	5.2	4-12	A subprogram within the student service program. Those program elements which have been established to provide supplemental instruction to matriculated students outside of the normal academic program.
Support Programs	4.0 5.0 6.0 7.0	1-28 2-4 4-1	A stratum of the Program Classification Structure hierarchy. Support programs contain those activities which are necessary or vital for the successful operation of the primary programs.
Supporting Service	7300	4-13	A program category. Those program elements related to convenience services provided by the institution.

Appendix I
Program Classification Structure
Program Categories

<u>HEGIS Discipline Categories</u>	<u>Additional PCS Program Categories</u>
0100 AGRICULTURE AND NATURAL RESOURCES	6600 AGRICULTURE AND RELATED INDUSTRIES
0200 ARCHITECTURE AND ENVIRONMENTAL DESIGN	6700 SOCIAL AND ECONOMIC DEVELOPMENT
0300 AREA STUDIES	6800 QUALITY OF LIVING
0400 BIOLOGICAL SCIENCES	6900 INTERNATIONAL EXTENSION
0500 BUSINESS AND MANAGEMENT	7000 (Reserved)
0600 COMMUNICATIONS	7100 STUDENT DEVELOPMENT
0700 COMPUTER AND INFORMATION SCIENCES	7200 INTERCOLLEGIATE ATHLETICS
0800 EDUCATION	7300 SUPPORTING SERVICES
0900 ENGINEERING	7400 SPECIAL STUDENT SERVICES
1000 FINE AND APPLIED ARTS	7500 Unassigned
1100 FOREIGN LANGUAGES	7600 Unassigned
1200 HEALTH PROFESSIONS	7700 Unassigned
1300 HOME ECONOMICS	7800 Unassigned
1400 LAW	7900 Unassigned
1500 LETTERS	8000 (Reserved)
1600 LIBRARY SCIENCE	8100 CENTRAL OPERATIONS
1700 MATHEMATICS	8200 FUNCTIONAL OPERATIONS
1800 MILITARY SCIENCES	8300 MAINTENANCE OPERATIONS
1900 PHYSICAL SCIENCES	8400 PLANT EXPANSION AND MODIFICATION
2000 PSYCHOLOGY	8500 Unassigned
2100 PUBLIC AFFAIRS AND SERVICES	8600 Unassigned
2200 SOCIAL SCIENCES	8700 Unassigned
2300 THEOLOGY	8800 Unassigned
4900 INTERDISCIPLINARY STUDIES	8900 Unassigned
5000 BUSINESS AND COMMERCE TECHNOLOGIES	9000 (Reserved)
5100 DATA PROCESSING TECHNOLOGIES	9100 OTHER INSTRUCTION
5200 HEALTH SERVICES AND PARAMEDICAL TECHNOLOGIES	9200 OTHER ORGANIZED RESEARCH
5300 MECHANICAL AND ENGINEERING TECHNOLOGIES	9300 OTHER PUBLIC SERVICE
5400 NATURAL SCIENCE TECHNOLOGIES	9400 OTHER ACADEMIC SUPPORT
5500 PUBLIC SERVICE RELATED TECHNOLOGIES	9500 OTHER STUDENT SERVICE
5600	9600 OTHER INSTITUTIONAL SUPPORT
thru (Reserved)	9700 INSTITUTIONAL OPERATIONS
6500	9800 OUTSIDE AGENCIES
	9900 INSTITUTION UNIQUE

Program Classification Structure

APPENDIX II

HEGIS Discipline Sectors by Discipline Category

Reprinted from "A Taxonomy of Instructional Programs
for Higher Education" to be published by the
National Center for Educational Statistics.

A TAXONOMY OF INSTRUCTIONAL PROGRAMS IN HIGHER EDUCATION
SECTION I: CONVENTIONAL ACADEMIC SUBDIVISIONS OF KNOWLEDGE AND TRAINING

0100 AGRICULTURE and NATURAL RESOURCES

Includes those subject field designations associated with the production and management of food, natural fiber, plant, forest and wildlife resources.

- 0101 Agriculture, General
 - 0102 Agronomy, Field Crops, and Crop Management
 - 0103 Soils Science (Management and Conservation)
 - 0104 Animal Science (Husbandry)
 - 0105 Dairy Science (Husbandry)
 - 0106 Poultry Science
 - 0107 Fish, Game, and Wildlife Management
 - 0108 Horticulture (Fruit and Vegetable Production)
 - 0109 Ornamental Horticulture (Floriculture, Nursery Science)
 - 0110 Agricultural and Farm Management
 - 0111 Agricultural Economics
 - 0112 Agricultural Business
 - 0113 Food Science and Technology
 - 0114 Forestry
 - 0115 Natural Resources Management
 - 0116 Agriculture and Forestry Technologies
(Baccalaureate and higher programs)
 - 0117 Range Management
 - 0199 Other, Specify
-

0200 ARCHITECTURE AND ENVIRONMENTAL DESIGN

Includes those subject field designations associated with training for a profession in designing buildings, communities, parks, and other man-made aspects of the physio-social environment.

- 0201 Environmental Design, General
 - 0202 Architecture
 - 0203 Interior Design
 - 0204 Landscape Architecture
 - 0205 Urban Architecture
 - 0206 City, Community, and Regional Planning
 - 0299 Other, Specify
-

0300 AREA STUDIES

Includes those subject field designations associated with programs designed to provide an in-depth study of a culture indigenous to a specific geographic region.

- 0301 Asian Studies, General
- 0302 East Asian Studies
- 0303 South Asian (India, etc.) Studies
- 0304 Southeast Asian Studies
- 0305 African Studies
- 0306 Islamic Studies
- 0307 Russian and Slavic Studies
- 0308 Latin American Studies

- 0309 Middle Eastern Studies
- 0310 European Studies, General
- 0311 Eastern European Studies
- 0312 West European Studies
- 0313 American Studies
- 0314 Pacific Area Studies
- 0399 Other, Specify

0400 BIOLOGICAL SCIENCES

Includes those subject field designations associated with the science of life or living matter in all its forms and phenomena especially with regard to the origin, growth, reproduction, and structure of life forms.

- 0401 Biology, General
- 0402 Botany, General
- 0403 Bacteriology
- 0404 Plant Pathology
- 0405 Plant Pharmacology
- 0406 Plant Physiology
- 0407 Zoology, General
- 0408 Pathology, Human and Animal
- 0409 Pharmacology, Human and Animal
- 0410 Physiology, Human and Animal
- 0411 Microbiology
- 0412 Anatomy
- 0413 Histology
- 0414 Biochemistry
- 0415 Biophysics
- 0416 Molecular Biology
- 0417 Cell Biology (cytology, cell physiology)
- 0418 Marine Biology
- 0419 Biometrics and Bio-statistics
- 0420 Ecology
- 0421 Entomology
- 0422 Genetics
- 0423 Radiobiology
- 0424 Nutrition, Scientific
(exclude nutrition in home economics and dietetics)
- 0425 Neurosciences
- 0426 Toxicology
- 0427 Embryology
- 0499 Other, Specify

0500 BUSINESS AND MANAGEMENT

Includes those subject field designations related to the organization, operation, administration, and control of private and public organizations.

- 0501 Business and Commerce, General
- 0502 Accounting
- 0503 Business Statistics
- 0504 Banking and Finance

- 0505 Investments and Securities
- 0506 Business Management and Administration
- 0507 Operations Research
- 0508 Hotel and Restaurant Management
- 0509 Marketing and Purchasing
- 0510 Transportation and Public Utilities
- 0511 Real Estate
- 0512 Insurance
- 0513 International Business
- 0514 Secretarial Studies (Baccalaureate and higher programs)
- 0515 Personnel Management
- 0516 Labor and Industrial Relations
- 0517 Business Economics
- 0599 Other, Specify

0600 COMMUNICATIONS

Includes those subject field designations related to collection, preparation, and presentation of ideas and information intended for popular consumption through mass media.

- 0601 Communications, General
- 0602 Journalism (printed media)
- 0603 Radio/TV
- 0604 Advertising
- 0605 Communication Media
(use of videotape, film, etc.,
oriented specifically toward radio/TV)
- 0699 Other, Specify

0700 COMPUTER and INFORMATION SCIENCES

Includes those subject field designations associated with the design, development, and application of computer capabilities to data storage and manipulation and related computational procedures.

- 0701 Computer and Information Sciences, General
- 0702 Information Sciences and Systems
- 0703 Data Processing
- 0704 Computer Programming
- 0705 Systems Analysis
- 0799 Other, Specify

0800 EDUCATION

Includes those subject field designations related to administration and control of educational organizations and institutions and subjects related to instruction and services both within and outside of such formal organizations.

- 0801 Education, General
- 0802 Elementary Education, General
- 0803 Secondary Education, General
- 0804 Junior High School Education
- 0805 Higher Education, General
- 0806 Junior and Community College Education

0807 Adult and Continuing Education
 0808 Special Education, General
 0809 Administration of Special Education
 0810 Education of the Mentally Retarded
 0811 Education of the Gifted
 0812 Education of the Deaf
 0813 Education of the Culturally Disadvantaged
 0814 Education of the Visually Handicapped
 0815 Speech Correction
 0816 Education of the Emotionally Disturbed
 0817 Remedial Education
 0818 Special Learning Disabilities
 0819 Education of the Physically Handicapped
 0820 Education of the Multiple Handicapped
 0821 Social Foundations (History and Philosophy of Education)
 0822 Educational Psychology (include Learning Theory)
 0823 Pre-Elementary Education (Kindergarten)
 0824 Educational Statistics and Research
 0825 Educational Testing, Evaluation, and Measurement
 0826 Student Personnel (Counseling and Guidance)
 0827 Educational Administration
 0828 Educational Supervision
 0829 Curriculum and Instruction
 0830 Reading Education (Methodology and Theory)
 0831 Art Education (Methodology and Theory)
 0832 Music Education (Methodology and Theory)
 0833 Mathematics Education (Methodology and Theory)
 0834 Science Education (Methodology and Theory)
 0835 Physical Education
 0836 Driver and Safety Education
 0837 Health Education (include Family Life Education)
 0838 Business, Commerce, and Distributive Education
 0839 Industrial Arts, Vocational and Technical Education
 0899 Other, Specify

0900 ENGINEERING

Includes those subject field designations associated with the practical application of basic scientific knowledge to the design, production, and operation of systems intended to facilitate man's control and use of his natural environment.

0901 Engineering, General
 0902 Aerospace, Aeronautical and Astronautical Engineering
 0903 Agricultural Engineering
 0904 Architectural Engineering
 0905 Bioengineering and Biomedical Engineering
 0906 Chemical Engineering (include Petroleum Refining)
 0907 Petroleum Engineering (exclude Petroleum Refining)
 0908 Civil, Construction, and Transportation Engineering
 0909 Electrical, Electronics, and Communications Engineering
 0910 Mechanical Engineering
 0911 Geological Engineering
 0912 Geophysical Engineering

- 0913 Industrial and Management Engineering
- 0914 Metallurgical Engineering
- 0915 Materials Engineering
- 0916 Ceramic Engineering
- 0917 Textile Engineering
- 0918 Mining and Mineral Engineering
- 0919 Engineering Physics
- 0920 Nuclear Engineering
- 0921 Engineering Mechanics
- 0922 Environmental and Sanitary Engineering
- 0923 Naval Architecture and Marine Engineering
- 0924 Ocean Engineering
- 0925 Engineering Technologies (Baccalaureate and higher programs)
- 0999 Other, Specify

1000 FINE and APPLIED ARTS

Includes those subject field designations associated with the creation and appreciation of the diverse modes of communicating ideas and emotions by means of stylized, visual, and non-visual representations and symbols.

- 1001 Fine Arts, General
- 1002 Art (Painting, Drawing, Sculpture)
- 1003 Art History and Appreciation
- 1004 Music (Performing, Composition, Theory)
- 1005 Music (Liberal Arts Program)
- 1006 Music History and Appreciation (Musicology)
- 1007 Dramatic Arts
- 1008 Dance
- 1009 Applied Design
(Ceramics, Weaving, Textile Design, Fashion Design,
Jewelry, Metalsmithing, Interior Decoration,
Commercial Art)
- 1010 Cinematography
- 1011 Photography
- 1099 Other, Specify

1100 FOREIGN LANGUAGES

Includes those subject field designations related to mastery of a language other than English or related to the study of a foreign culture through exploration of the literature of that culture as expressed in the language of that culture.

- 1101 Foreign Languages, General
(includes those who have concentrated on more
than one foreign language without giving major
emphasis to any one language)
- 1102 French
- 1103 German
- 1104 Italian
- 1105 Spanish
- 1106 Russian
- 1107 Chinese
- 1108 Japanese
- 1109 Latin
- 1110 Greek, classical

- 1111 Hebrew and Semitic
- 1112 Arabic
- 1113 Indian (Asiatic)
- 1114 Scandinavian Languages
- 1115 Slavic Languages (other than Russian)
- 1116 African Languages (non-Semitic)
- 1199 Other, Specify

1200 HEALTH PROFESSIONS

Includes those subject field designations associated with the maintenance and restoration of physical and mental well-being.

- 1201 Health Professions, General
- 1202 Hospital and Health Care Administration
- 1203 Nursing (Baccalaureate and higher programs)
- 1204 Dentistry, D.D.S. or D.M.D. Degree
- 1205 Dental Specialties
(work beyond first professional degree,
D.D.S. or D.M.D.)
- 1206 Medicine, M.D. Degree
- 1207 Medical Specialties (work beyond first professional degree, M.D.)
- 1208 Occupational Therapy
- 1209 Optometry
- 1210 Osteopathic Medicine, D.O. Degree
- 1211 Pharmacy
- 1212 Physical Therapy
- 1213 Dental Hygiene (Baccalaureate and higher programs)
- 1214 Public Health
- 1215 Medical Record Librarianship
- 1216 Podiatry (Pod.D. or D. P.) or Podiatric Medicine (D.P.M.)
- 1217 Biomedical Communication
- 1218 Veterinary Medicine, (D.V.M. Degree)
- 1219 Veterinary Medicine Specialties
(work beyond first professional
degree, D.V.M.)
- 1220 Speech Pathology and Audiology
- 1221 Chiropractic
- 1222 Clinical Social Work,
(Medical and Psychiatric and Specialized
Rehabilitation Services)
- 1223 Medical Laboratory Technologies (Baccalaureate and higher programs)
- 1224 Dental Technologies (Baccalaureate and higher programs)
- 1225 Radiologic Technologies (Baccalaureate and higher programs)
- 1299 Other, Specify

1300 HOME ECONOMICS

Includes those subject field designations associated with the theory and practice of family and home care including the science of foods, home decoration and management, and child care.

- 1301 Home Economics, General
- 1302 Home Decoration and Home Equipment
- 1303 Clothing and Textiles
- 1304 Consumer Economics and Home Management

- 1305 Family Relations and Child Development
 - 1306 Foods and Nutrition (include Dietetics)
 - 1307 Institutional Management and Cafeteria Management
 - 1399 Other, Specify
-

1400 LAW

Includes those subject field designations associated with instruction in the legal customs, practices, and rules of society and state for the purpose of pursuing a career in jurisprudence.

- 1401 Law, General
 - 1499 Other, Specify
-

1500 LETTERS

Includes those subject field designations associated with English language and literature and value systems related to ancient and modern cultures.

- 1501 English, General
 - 1502 Literature, English
 - 1503 Comparative Literature
 - 1504 Classics
 - 1505 Linguistics (include Phonetics, Semantics, and Philology)
 - 1506 Speech and Debate and Forensic Science (Rhetoric and Public Address)
 - 1507 Creative Writing
 - 1508 Teaching of English as a Foreign Language
 - 1509 Philosophy
 - 1510 Religious Studies (exclude Theological Professions)
 - 1599 Other, Specify
-

1600 LIBRARY SCIENCE

Including those subject field designations associated with instruction in the professional skills required to organize collections of books and related materials and the training necessary for providing services related to those resources.

- 1601 Library Science, General
 - 1699 Other Specify
-

1700 MATHEMATICS

Includes those subject field designations associated with the science of numbers and space configurations and their operations, measurements, relationships, and abstractions.

- 1701 Mathematics, General
 - 1702 Statistics, Mathematical and Theoretical
 - 1703 Applied Mathematics
 - 1799 Other, Specify
-

1800 MILITARY SCIENCES

Includes those subject field designations associated with techniques and skills unique to the pursuit of a professional career as a military officer.

- 1801 Military Science (Army)
- 1802 Naval Science (Navy - Marines)

- 1803 Aerospace Science (Air Force)
1899 Other, Specify
-

1900 PHYSICAL SCIENCES

Includes those subject field designations associated with the basic nature of matter and energy and associated phenomena.

- 1901 Physical Sciences, General
1902 Physics, General (exclude Biophysics)
1903 Molecular Physics
1904 Nuclear Physics
1905 Chemistry, General (exclude Biochemistry)
1906 Inorganic chemistry
1907 Organic chemistry
1908 Physical chemistry
1909 Analytical chemistry
1910 Pharmaceutical chemistry
1911 Astronomy
1912 Astrophysics
1913 Atmospheric Sciences and Meteorology
1914 Geology
1915 Geochemistry
1916 Geophysics and Seismology
1917 Earth Sciences, General
1918 Paleontology
1919 Oceanography
1920 Metallurgy
1999 Other, Specify
-

2000 PSYCHOLOGY

Includes those subject field designations associated with the nature, functions, and capabilities of the mind.

- 2001 Psychology, General
2002 Experimental Psychology (animal and human)
2003 Clinical Psychology
2004 Psychology for Counseling
2005 Social Psychology
2006 Psychometrics
2007 Statistics in Psychology
2008 Industrial Psychology
2009 Developmental Psychology
2010 Physiological Psychology
2099 Other, Specify
-

2100 PUBLIC AFFAIRS and SERVICES

Includes those subject field designations related to developing and improving competencies in the management and operation of governmental agencies.

- 2101 Community Services, General
2102 Public Administration
2103 Parks and Recreation Management

- 2104 Social Work and Helping Services (other than clinical social work)
 - 2105 Law Enforcement and Corrections (Baccalaureate and higher programs)
 - 2106 International Public Service (other than diplomatic service)
 - 2199 Other, Specify
-

2200 SOCIAL SCIENCES

Includes those subject field designations associated with all aspects of the past and present activities, conduct, interactions, and organizations of humans.

- 2201 Social Sciences, General
 - 2202 Anthropology
 - 2203 Archeology
 - 2204 Economics
 - 2205 History
 - 2206 Geography
 - 2207 Political Science and Government
 - 2208 Sociology
 - 2209 Criminology
 - 2210 International Relations
 - 2211 Afro-American (Black Culture) Studies
 - 2212 American Indian Cultural Studies
 - 2213 Mexican-American Cultural Studies
 - 2214 Urban Studies
 - 2215 Demography
 - 2299 Other, Specify
-

2300 THEOLOGY

Includes those subject field designations related to preparation and training for a religious vocation.

- 2301 Theological Professions, General
 - 2302 Religious Music
 - 2303 Biblical Languages
 - 2304 Religious Education
 - 2399 Other, Specify
-

4900 INTERDISCIPLINARY STUDIES

Includes those subject field designations involving more than one major discipline without primary concentration in any one area.

- 4901 General Liberal Arts and Sciences
- 4902 Biological and Physical Sciences
- 4903 Humanities and Social Sciences
- 4904 Engineering and Other Disciplines
- 4999 Other, Specify

A TAXONOMY OF INSTRUCTIONAL PROGRAMS IN HIGHER EDUCATION
SECTION II: TECHNOLOGICAL AND OCCUPATIONAL CURRICULA LEADING TO ASSOCIATE
DEGREES AND OTHER AWARDS BELOW THE BACCALAUREATE (Two years
of preparation beyond high school are usually sufficient
for entrance into these occupational fields.)

5000 BUSINESS and COMMERCE TECHNOLOGIES

Includes those subject field designations associated
with development of skills required for commercial,
business, or secretarial occupations at the semi-
professional level.

- 5001 Business and Commerce Technologies, General
 - 5002 Accounting Technologies
 - 5003 Banking and Finance Technologies
 - 5004 Marketing, Distribution, Purchasing, Business and
Industrial Management Technologies
 - 5005 Secretarial Technologies (include office machines training)
 - 5006 Personal Service Technologies (Stewardess, Cosmetologist, etc.)
 - 5007 Photography Technologies
 - 5008 Communications and Broadcasting Technologies (Radio/TV, Newspapers)
 - 5009 Printing and Lithography Technologies
 - 5010 Hotel and Restaurant Management Technologies
 - 5011 Transportation and Public Utility Technologies
 - 5012 Applied Arts, Graphic Arts, and Fine Arts Technologies
(include advertising design)
 - 5099 Other, Specify
-

5100 DATA PROCESSING TECHNOLOGIES

Includes those subject field designations associated with
development of skills required for data processing related
occupations at the semiprofessional level.

- 5101 Data Processing Technologies, General
 - 5102 Key Punch Operator and Other Input Preparation Technologies
 - 5103 Computer Programmer Technologies
 - 5104 Computer Operator and Peripheral Equipment Operation Technologies
 - 5105 Data Processing Equipment Maintenance Technologies
 - 5199 Other, Specify
-

5200 HEALTH SERVICES and PARAMEDICAL TECHNOLOGIES

Includes those subject field designations associated
with development of skills required for health service
related occupations at the semiprofessional level.

- 5201 Health Services Assistant Technologies, General
- 5202 Dental Assistant Technologies
- 5203 Dental Hygiene Technologies
- 5204 Dental Laboratory Technologies
- 5205 Medical or Biological Laboratory Assistant Technologies
- 5206 Animal Laboratory Assistant Technologies
- 5207 Radiologic Technologies (X-Ray, etc.)
- 5208 Nursing, R.N. (less than 4 year program)

- 5209 Nursing, Practical (L.P.N. or L.V.N. - less than 4 year program)
- 5210 Occupational Therapy Technologies
- 5211 Surgical Technologies
- 5212 Optical Technologies
(include Ocular Care, Ophthalmic,
Optometric Technologies)
- 5213 Medical Record Technologies
- 5214 Medical Assistant and Medical Office Assistant Technologies
- 5215 Inhalation Therapy Technologies
- 5216 Psychiatric Technologies (include mental health aide programs)
- 5217 Electro Diagnostic Technologies (include E.K.G., E.E.G., etc.)
- 5218 Institutional Management Technologies (Rest Home, etc.)
- 5219 Physical Therapy Technologies
- 5299 Other, Specify

5300 MECHANICAL and ENGINEERING TECHNOLOGIES

Includes those subject field designations associated with development of skills required for mechanical and engineering related occupations at the semiprofessional level.

- 5301 Mechanical and Engineering Technologies, General
- 5302 Aeronautical and Aviation Technologies
- 5303 Engineering Graphics (Tool and machine drafting and design)
- 5304 Architectural Drafting Technologies
- 5305 Chemical Technologies (include Plastics)
- 5306 Automotive Technologies
- 5307 Diesel Technologies
- 5308 Welding Technologies
- 5309 Civil Technologies (Surveying, Photogrammetry, etc.)
- 5310 Electronics and Machine Technologies
(TV, Appliance, Office Machine Repair, etc.)
- 5311 Electromechanical Technologies
- 5312 Industrial Technologies
- 5313 Textile Technologies
- 5314 Instrumentation Technologies
- 5315 Mechanical Technologies
- 5316 Nuclear Technologies
- 5317 Construction and Building Technologies (carpentry, electrical,
plumbing, sheet metal, air conditioning, heating, etc.)
- 5399 Other, Specify

5400 NATURAL SCIENCE TECHNOLOGIES

Includes those subject field designations associated with development of skills required for natural science related occupations at the semiprofessional level.

- 5401 Natural Science Technologies, General
- 5402 Agriculture Technologies (include Horticulture)
- 5403 Forestry and Wildlife Technologies (include Fisheries)
- 5404 Food Services Technologies
- 5405 Home Economics Technologies
- 5406 Marine and Oceanographic Technologies
- 5407 Laboratory Technologies, General

- 5408 Sanitation and Public Health Inspection Technologies
(Environmental Health Technologies)
- 5499 Other, Specify
-

5500 PUBLIC SERVICE RELATED TECHNOLOGIES

Includes those subject field designations associated with development of skills required for public service related occupations at the semiprofessional level.

- 5501 Public Service Technologies, General
- 5502 Bible Study or Religion Related Occupations
- 5503 Education Technologies
(Teacher aids and 2-year teacher training programs)
- 5504 Library Assistant Technologies
- 5505 Police, Law Enforcement, Corrections Technologies
- 5506 Recreation and Social Work Related Technologies
- 5507 Fire Control Technology
- 5508 Public Administration and Management Technologies
- 5599 Other, Specify

INDEX OF HEGIS DISCIPLINE SECTORS

Part I: Conventional Academic Subdivisions of Knowledge and Training

<u>TITLE</u>	<u>CODE</u>
Accounting	0502
Administration, Business	0506
Administration, Educational	0827
Administration, Public	2102
Administration, Special Education	0809
Adult Education	0807
Advertising	0604
Aeronautical Engineering	0902
Aerospace Engineering	0902
Aerospace Science	1803
African Languages (non-Semitic)	1116
African Studies	0305
Afro-American Studies	2211
Agricultural Business	0112
Agricultural Economics	0111
Agricultural Engineering	0903
Agriculture, General	0101
Agricultural Management	0110
Agriculture Technologies	0116
Agronomy	0102
American Indian Cultural Studies	2212
American Studies	0313
Analytical Chemistry	1909
Anatomy	0412
Animal Science	0104
Anthropology	2302
Applied Design	1009
Applied Mathematics	1703
Arabic	1112
Archeology	2203
Architectural Engineering	0904
Architecture	0202
Art	1002
Art Appreciation	1003
Art, Commercial	1009
Art Education	0831
Art History	1003
Asian Studies, General	0301
Astronautical Engineering	0902
Astronomy	1911
Astrophysics	1912
Atmospheric Sciences	1913
Audiology	1220
Bacteriology	0403
Banking	0504
Biblical Languages	2303
Biochemistry	0414
Bioengineering	0905
Biological and Physical Sciences (Interdisciplinary)	4902
Biology, Cellular	0417
Biology, General	0401
Biology, Marine	0418
Biology, Molecular	0416
Biomedical Communication	1217
Biomedical Engineering	0905
Biometrics	0419
Biophysics	0415
Bio-Statistics	0419
Black Culture Studies	2211
Botany, General	0402
Business Administration	0506
Business, Agricultural	0712

<u>TITLE</u>	<u>CODE</u>
Business Economics	0517
Business Education	0838
Business, General	0501
Business, International	0513
Business Management	0506
Business Statistics	0503
Cafeteria Management	1307
Catalan	1199
Cell Biology	0417
Cell Physiology	0417
Ceramic Engineering	0916
Ceramics	1009
Chemical Engineering	0906
Chemistry, General	1905
Child Development	1305
Chinese	1107
Chiropractic	1221
Cinematography	1010
City Planning	0206
Civil Engineering	0908
Classics	1504
Clinical Psychology	2003
Clinical Social Work	1222
Clothing	1303
Commerce, Education	0838
Commerce, General	0501
Commercial Art	1009
Communication Media	0605
Communications, General	0601
Communications Engineering	0909
Community College Education	0806
Community Planning	0206
Community Services, General	2101
Comparative Literature	1503
Computer Programming	0704
Computer Sciences, General	0701
Construction Engineering	0908
Consumer Economics	1304
Continuing Education	0807
Corrections	2105
Counseling, Educational	0826
Creative Writing	1507
Criminology	2209
Crop Management	0102
Curriculum	0829
Cytology	0417
Dairy Science	0105
Dance	1008
Danish	1114
Data Processing	0703
Debate	1506
Demography	2215
Dental Hygiene	1213
Dental Specialities	1205
Dental Technologies	1224
Dentistry, D.D.S. or D.M.D. Degree	1204
Developmental Psychology	2009
Dietetics	1306
Distributive Education	0838
Dramatic Arts	1007
Drawing	1002
Driver Education	0836
Earth Sciences, General	1917
East Asian Studies	0302
Eastern European Studies	0311
Ecology	0420
Economics	2204
Economics, Agricultural	0111
Economics, Business	0517

<u>TITLE</u>	<u>CODE</u>
Education of the Culturally Disadvantaged	0813
Education of the Deaf	0812
Education of the Emotionally Disturbed	0816
Education, General	0801
Education of the Gifted	0811
Education of Mentally Retarded	0810
Education of the Multiple Handicapped	0820
Education of the Physically Handicapped	0819
Education, Religious	2304
Education of the Visually Handicapped	0814
Educational Administration	0827
Educational Evaluation	0825
Educational Measurement	0825
Educational Psychology	0822
Educational Research	0824
Educational Statistics	0824
Educational Supervision	0828
Educational Testing	0825
Electrical Engineering	0909
Electronics Engineering	0909
Elementary Education, General	0802
Embryology	0427
Engineering, General	0901
Engineering Mechanics	0921
Engineering and Other Disciplines (Interdisciplinary)	4904
Engineering Physics	0919
Engineering Technologies	0925
English as a Foreign Language	1508
English, General	1501
English, Literature	1502
Entomology	0421
Environmental Design, General	0201
Environmental Engineering	0922
European Studies, General	0310
Experimental Psychology (animal and human)	2002
Family Life Education	0837
Family Relations	1305
Farm Management	0110
Fashion Design	1009
Field Crops	0102
Finance	0504
Fine Arts, General	1001
Finnish	1114
Fish Management	0107
Floriculture	0109
Foods and Nutrition	1306
Food Science	0113
Food Technology	0113
Foreign Languages, General	1101
Forensic Science	1506
Forestry	0114
Forestry Technologies	0116
French	1102
Fruit Production	0108
Game Management	0107
General Liberal Arts and Sciences (Interdisciplinary)	4901
Genetics	0422
Geochemistry	1915
Geography	2206
Geological Engineering	0911
Geology	1914
Geophysics	1916
Geophysical Engineering	0912
German	1103
Government	2207
Greek, Classical	1110
Guidance, Education	0826

<u>TITLE</u>	<u>COOE</u>
Health Care Administration	1202
Health Education	0837
Health Professions, General	1201
Hebrew	1111
Helping Services	2104
Higher Education, General	0805
Histology	0413
History	2205
History of Education	0621
Home Decoration	1302
Home Economics, General	1301
Home Equipment	1302
Home Management	1304
Horticulture	0108
Hospital Administration	1202
Hotel Management	0508
Humanities and Social Sciences (Interdisciplinary)	4903
Husbandry, Animal	0104
Husbandry, Dairy	0105
Ichthyology	0499
India Studies	0303
Indian (Asiatic)	1113
Industrial Arts Education	0839
Industrial Engineering	0913
Industrial Psychology	2008
Industrial Relations	0516
Information Sciences	0702
Information Sciences, General	0701
Information Systems	0702
Inorganic Chemistry	1906
Institutional Management	1307
Instruction	0829
Insurance	0512
Interior Decoration	1009
Interior Design	0203
International Business	0513
International Public Service	2106
International Relations	2210
Investments	0505
Islamic Studies	0306
Italian	1104
Japanese	1108
Jewelry	1009
Journalism	0602
Junior College Education	0806
Junior High School Education	0904
Kindergarten Education	0823
Korean	1199
Labor Relations	0516
Landscape Architecture	0204
Latin	1109
Latin American Studies	0308
Law Enforcement	2105
Law, General	1401
Learning Theory	0822
Liberal Arts and Sciences (Interdisciplinary)	4901
Library Science, General	1601
Limnology	0499
Linguistics	1505
Literature, Comparative	1503
Literature, English	1502
Management, Business	0506
Management, Engineering	0913
Marine Biology	0418
Marine Engineering	0923
Marketing	0509
Materials Engineering	0915
Mathematics, Applied	1703

<u>TITLE</u>	<u>CODE</u>
Mathematics, Education	0833
Mathematics, General	1701
Mathematics, Statistics	1702
Mechanical Engineering	0910
Medical Laboratory Technologies	1223
Medical Record Librarianship	1215
Medical Specialties	1207
Medicine, M.D. Degree	1206
Metallurgical Engineering	0914
Metallurgy	1920
Metalsmithing	1009
Meteorology	1913
Mexican-American Cultural Studies	2213
Microbiology	0411
Middle Eastern Studies	0309
Military Science	1801
Mineral Engineering	0918
Mining Engineering	0918
Molecular Biology	0416
Molecular Physics	1903
Music (Liberal Arts Program)	1005
Music Appreciation	1006
Music, Composition	1004
Music Education	0832
Music History	1006
Music, Performing	1004
Music, Theory	1004
Musicology	1006
Natural Resources Management	0115
Naval Architecture	0923
Naval Science	1802
Neurosciences	0425
Norwegian	1114
Nuclear Engineering	0920
Nuclear Physics	1904
Nursery Science	0109
Nursing (Baccalaureate and Higher Programs)	1203
Nutrition, Scientific	0424
Occupational Therapy	1208
Ocean Engineering	0924
Oceanography	1919
Operations Research	0507
Optometry	1209
Organic Chemistry	1907
Ornamental Horticulture	0109
Ornithology	0499
Osteopathic Medicine, D.O. Degree	1210
Pacific Area Studies	0314
Painting	1002
Paleontology	1918
Parasitology	0499
Parks Management	2103
Pathology, Animal	0408
Pathology, Human	0408
Pathology, Plant	0404
Personnel Management	0515
Petroleum Engineering	0907
Petroleum Refining	0906
Pharmaceutical Chemistry	1910
Pharmacology, Animal	0409
Pharmacology, Human	0409
Pharmacology, Plant	0405
Pharmacy	1211
Philology	1505
Philosophy	1509
Philosophy of Education	0821
Phonetics	1505
Photography	1011

<u>TITLE</u>	<u>CODE</u>
Physical Chemistry	1908
Physical Education	0835
Physical Sciences, General	1901
Physical Therapy	1212
Physics, General	1902
Physiological Psychology	2010
Physiology, Animal	0410
Physiology, Human	0410
Physiology, Plant	0406
Plant Pathology	0404
Plant Pharmacology	0405
Plant Physiology	0406
Podiatry	1216
Political Science	2207
Poultry Science	0106
Pre-Elementary Education	0823
Programming, Computer	0704
Psychology, Clinical	2003
Psychology for Counseling	2004
Psychology, Developmental	2009
Psychology, Education	0822
Psychology, General	2001
Psychology, Industrial	2008
Psychology, Physiological	2010
Psychology, Social	2005
Psychometrics	2006
Public Address	1506
Public Administration	2102
Public Health	1214
Public Utilities	0510
Purchasing	0509
Radio	0603
Radiobiology	0423
Radiologic Technologies	1225
Range Management	0117
Reading Education	0830
Real Estate	0511
Recreation Management	2103
Regional Planning	0206
Rehabilitation Services	1222
Religious Education	2304
Religious Music	2302
Religious Studies	1510
Remedial Education	0817
Restaurant Management	0508
Rhetoric	1506
Russian	1106
Russian Studies	0306
Safety Education	0836
Sanitary Engineering	0922
Sanskrit	1199
Scandinavian Languages	1114
Science Education	0834
Sculpture	1002
Secondary Education, General	0803
Secretarial Studies	0514
Securities	0505
Seismology	1916
Semantics	1505
Semitic	1111
Slavic Languages (other than Russian)	1115
Slavic Studies	0307
Social Foundations of Education	0821
Social Sciences, General	2201
Social Psychology	2005
Social Work	2104
Sociology	2208
Soils Conservation	0103
Soils Management	0103
Soils Science	0103

<u>TITLE</u>	<u>CODE</u>
South Asian Studies	0303
Southeast Asian Studies	0304
Spanish	1105
Special Education, General	0808
Special Learning Disabilities	0818
Speech	1506
Speech Correction	0815
Speech Pathology	1220
Statistics, Mathematical and Theoretical	1702
Statistics in Psychology	2007
Student Personnel	0826
Swedish	1114
Systems Analysis	0705
Systems, Information	0702
Teaching of English as a Foreign Language	1508
Technical Education	0839
Television	0603
Textile Design	1009
Textile Engineering	0917
Textiles, Home Economics	1303
Theological Professions, General	2301
Toxicology	0426
Transportation	0510
Transportation Engineering	0908
Urban Architecture	0205
Urban Studies	2214
Vegetable Production	0108
Veterinary Medicine, D.V.M. Degree	1218
Veterinary Medicine Specialties	1219
Vietnamese	1199
Vocational Education	0839
Weaving	1009
West European Studies	0312
Wildlife Management	0107
Writing, Creative	1507
Zoology, General	0407

Part 2: Technologies and Occupational Specialties Related to Curriculums
Leading to Associate Degrees and Other Awards Below the Baccalaureate

<u>TITLE</u>	<u>CODE</u>
Accounting Technologies	5002
Advertising Design Technologies	5012
Advertising Technologies	5004
Aeronautical Technologies	5302
Agriculture Technologies	5402
Air Conditioning Technologies	5317
Airport Management Technologies	5004
Animal Laboratory Assistant Technologies	5206
Appliance Repair Technologies	5310
Applied Arts Technologies	5012
Architectural Drafting Technologies	5304
Automotive Technologies	5306
Aviation Technologies	5302
Banking Technologies	5003
Bible Study	5502
Biological Laboratory Assistant Technologies	5205
Broadcasting Technologies	5003
Building Technologies	5317
Business Management Technologies	5004
Business Technologies, General	5001
Carpentry Technologies	5317
Chemical Technologies	5305
Civil Technologies	5309
Commerce Technologies, General	5001
Communications Technologies	5008
Computer Operator Technologies	5104
Computer, Peripheral Equipment Operation Technologies	5104
Computer Programmer Technologies	5103
Construction Technologies	5317
Corrections Technologies	5505
Cosmetologist	5006
Data Processing Equipment Maintenance Technologies	5105
Data Processing Technologies, General	5101
Dental Assistant Technologies	5202
Dental Hygiene Technologies	5203
Dental Laboratory Technologies	5204
Diesel Technologies	5307
Distribution Technologies	5004
Drafting, Architectural	5304
Education Technologies	5503
Electrician Technologies	5317
Electro Diagnostic Technologies	5217
Electromechanical Technologies	5311
Electronics and Machine Technologies	5310
Engineering Graphics	5303
Engineering Technologies, General	5301
Environmental Health Technologies	5408
Finance Technologies	5003
Fine Arts Technologies	5012
Fire Control Technology	5507
Fisheries Technologies	5403
Food Services Technologies	5404
Forestry Technologies	5403
Graphic Arts Technologies	5012
Health Services Assistant Technologies, General	5201
Heating Technologies	5317
Home Economics Technologies	5405
Horticulture Technologies	5402
Hospital Food Service Technologies	5404
Hotel Management Technologies	5010

<u>TITLE</u>	<u>CODE</u>
Industrial Management Technologies	5004
Industrial Technologies	5312
Inhalation Therapy Technologies	5215
Input Preparation Technologies	5102
Institutional Management Technologies	5218
Instrumentation Technologies	5314
Insurance Technologies	5004
Key Punch Operator Technologies	5102
Laboratory Technologies, General	5407
Landscape Technologies	5402
Law Enforcement Technologies	5505
Library Assistant Technologies	5504
Lithography Technologies	5009
Machine Drafting and Design Technologies	5303
Machine Repair Technologies	5310
Marina Management Technologies	5004
Marine Technologies	5406
Marketing Technologies	5004
Mechanical Technologies	5315
Mechanical Technologies, General	5301
Medical Assistant Technologies	5214
Medical Laboratory Assistant Technologies	5205
Medical Office Assistant Technologies	5214
Medical Record Technologies	5213
Mental Health Aide Programs	5216
Natural Science Technologies, General	5401
Newspaper Communication Technologies	5008
Nuclear Technologies	5316
Nursing, Practical (L.P.N. or L.V.N.)	5209
Nursing R.N. Preparation	5208
Occupational Therapy Technologies	5210
Oceanographic Technologies	5406
Ocular Care Technologies	5212
Office Machine Repair Technologies	5310
Office Machines Training	5005
Ophthalmic Technologies	5212
Optical Technologies	5212
Optometric Technologies	5212
Personal Management Technologies	5004
Personal Service Technologies	5006
Photogrammetry Technologies	5309
Photography Technologies	5007
Physical Therapy Technologies	5219
Plastics Technologies	5305
Plumbing Technologies	5317
Police Technologies	5505
Printing Technologies	5009
Programmer Technologies	5103
Psychiatric Technologies	5216
Public Administration and Management Technologies	5508
Public Health Inspection Technologies	5408
Public Service Technologies, General	5501
Public Utility Technologies	5011
Purchasing Technologies	5004
Radio Broadcasting Technologies	5008
Radio Repair Technologies	5310
Radiologic Technologies	5207
Real Estate Technologies	5004
Recreation Technologies	5506
Religion Related Occupations	5502
Rest Home Management Technology	5218
Restaurant Management Technologies	5010

<u>TITLE</u>	<u>CODE</u>
Sales Technologies	5004
Sanitation Technologies	5408
Secretarial Technologies	5005
Sheet Metal Technologies	5317
Social Work Related Technologies	5506
Stewardess Preparation	5006
Surgical Technologies	5211
Surveying Technologies	5309
Teacher Aide Preparation	5503
Television Broadcasting Technologies	5008
Television Repair Technologies	5310
Textile Technologies	5313
Tool Design Technologies	5303
Transportation Technologies	5011
Welding Technologies	5308
Wildlife Technologies	5403
X-Ray Technologies	5207

Program Classification Structure

APPENDIX III

PCS Program Sectors by Program Category

(Excluding HEGIS Discipline Sectors listed in Appendix II)

APPENDIX III
PCS Program Sectors

6600 Agriculture and Related Industries
6601 Unassigned
.
.
.
6699

6700 Social and Economic Development
6701 Unassigned
.
.
.
6799

6800 Quality of Living
6801 Unassigned
.
.
.
6899

6900 International Extension
6901 Unassigned
.
.
.
6999

7100 Student Development
7110 Student Activities
7120 Cultural Events
7130 Student Organizations
7140 Recreation
7150 Intramural Athletics
7160 (Reserved)
7170 (Reserved)
7180 (Reserved)
7190 Unassigned

7200 Intercollegiate Athletics
7201 Baseball
7202 Basketball
7203 Boxing
7204 Diving
7205 Fencing
7206 Football
7207 Golf
7208 Gymnastics
7209 Ice Hockey
7210 Lacrosse
7211 Rowing
7212 Rugby
7213 Skiing
7214 Soccer
7215 Swimming
7216 Tennis
7217 Track and Field

7200 Intercollegiate Athletics (con't)
7218 Wrestling
7219 (Reserved)
.
.
.
7249
7250 Unassigned
.
.
.
7299

7300 Supporting Services
7310 Food Services
7320 Health Services
7330 Housing Services
7340 Retail Services and Concessions
7350 (Reserved)
7360 (Reserved)
7370 (Reserved)
7380 (Reserved)
7390 Unassigned

7400 Special Student Services
7410 Veterans
7420 Foreign Students
7430 Disadvantaged
7440 Physically Handicapped
7450 (Reserved)
7460 (Reserved)
7470 (Reserved)
7480 (Reserved)
7490 Unassigned

8100 Central Operations
8110 Executive Direction
8120 Planning and Programming
8130 Legal Services
8140 Fiscal Control
8150 Investments
8160 Administrative Support
8165 Space Management
8170 Environmental Health and Safety
8175 Alumni Relations
8180 Community Relations
8185 Development
8190 Unassigned

8200 Functional Operations
8210 Fiscal Operations
8220 Student Admissions and Records
8230 Employee Personnel and Records
8240 Purchasing and Materials
8250 Communication and Services

8200 Functional Operations (con't)
 8260 Transportation Services
 8270 (Reserved)
 8280 (Reserved)
 8290 Unassigned

8300 Maintenance Operations
 8310 Utility Plants
 8320 Building Maintenance
 8330 Grounds Maintenance
 8340 Custodial Services
 8350 (Reserved)
 8360 (Reserved)
 8370 (Reserved)
 8380 (Reserved)
 8390 Unassigned

8400 Plant Expansion and Modification
 8410 New Building Construction
 8420 Facility Remodeling
 8430 Landscaping and Grounds Modification
 8440 (Reserved)
 8450 (Reserved)
 8460 (Reserved)
 8470 (Reserved)
 8480 (Reserved)
 8490 Unassigned

9100 Other Instruction
 9101 Unassigned
 .
 .
 .
 9199

9200 Other Organized Research
 9201 Unassigned
 .
 .
 .
 9299

9300 Other Public Service
 9301 Unassigned
 .
 .
 .
 9399

9400 Other Academic Support
 9401 Unassigned
 .
 .
 .
 9499

9500 Other Student Services
 9501 Unassigned
 .
 .
 .
 9599
 9600 Other Institutional Support
 9601 Unassigned
 .
 .
 .
 9699
 9700 Institutional Operations
 9701 Unassigned
 .
 .
 .
 9799
 9800 Outside Agencies
 9801 Unassigned
 .
 .
 .
 9899
 9900 Institutions Unique
 9901 Unassigned
 .
 .
 .
 9999

Appendix IV

SAMPLE CROSSWALK

Appendix Four is a sample "crosswalk" to demonstrate the manner in which typical accounts will relate to the Program Classification Structure. For the purpose of this illustration, the crosswalk is developed only to the program sector level. In practice, data from the institution's accounting system will normally be transformed into program elements, thus an institution's crosswalk will be far more extensive than the sample crosswalk used for this illustration.

The hypothetical accounting system used for this sample crosswalk is based on a twelve-digit account number to identify each account. The fund is character one, e.g., state appropriations, federal appropriations, etc.; the function is character two, e.g., instruction, central administration, student services, etc.; the category is character three, e.g., equipment, salaries, wages, operating expenses, etc.; the reporting unit is characters four through six, e.g., English Department, Accounting Department, Economics Department, Engineering Department, etc. The remaining six characters are used to further delineate the account classifications.

Because of the simplified nature of this particular illustration, many accounts have been related to the Program Classification Structure at levels above the Program Sector, e.g., account number 12201053xxxx, Instruction, Operating Expense, E.D.P. (by discipline) is related to the Program Classification Structure instruction program (by discipline) with codes of the form 10xxxx. The zero in the second character indicates that the data processing expenses in the various discipline instruction activities is not identified by subprogram and should be allocated to all instruction programs in the respective disciplines.

The sample crosswalk is listed first by the Program Classification Structure code with at least one entry for each of the thirty PCS subprograms. Following the PCS list is a listing by account number in numerical sequence.

<u>Account Number</u>	<u>Description</u>	<u>PCS No.</u>
122010532210	INSTRUCTION, OPERATING EXP. E.D.P., BIOLOGY	100401
122010531810	INSTRUCTION, OPERATING EXP. E.D.P., ACCOUNTING	100502
122010531830	INSTRUCTION, OPERATING EXP. E.D.P., FINANCE	100504
122010531860	INSTRUCTION, OPERATING EXP. E.D.P., MANAGEMENT	100506
122010531840	INSTRUCTION, OPERATING EXP. E.D.P., MARKETING	100509
122010531820	INSTRUCTION, OPERATING EXP. E.D.P., ECONOMICS	100517
122010531900	INSTRUCTION, OPERATING EXP. E.D.P., GENERAL EDUCATION	100801
122010532000	INSTRUCTION, OPERATING EXP. E.D.P., GENERAL ENGINEERING	100901
122010532230	INSTRUCTION, OPERATING EXP. E.D.P., MATHEMATICS	101701
122010532220	INSTRUCTION, OPERATING EXP. E.D.P., PHYSICS	101902
122010532240	INSTRUCTION, OPERATING EXP. E.D.P., CHEMISTRY	101905
122010532250	INSTRUCTION, OPERATING EXP. E.D.P., GEOLOGY	101914
122010532160	INSTRUCTION, OPERATING EXP. E.D.P., PSYCHOLOGY	102001
122010532150	INSTRUCTION, OPERATING EXP. E.D.P., POLITICAL SCIENCE	102207
123021360000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, AFRO STUDIES	110305
121062210000	INSTRUCTION, TEMP HELP, ACADEMIC YR. BIOLOGY	110401
121010910000	INSTRUCTION, SALARIES, ACADEMIC YEAR, ACCOUNTING	110502
121020930000	INSTRUCTION, SALARIES, ACADEMIC YEAR, FINANCE	110504
121040960000	INSTRUCTION, SALARIES, ACADEMIC YEAR, MANAGEMENT	110506
121040940000	INSTRUCTION, SALARIES, ACADEMIC YEAR, MARKETING	110509
121010920000	INSTRUCTION, SALARIES, ACADEMIC YEAR, ECONOMICS	110517
123011570000	SPECIAL VISITING LECTURER EXPENSE, JOURNALISM	110602
121051900000	INSTRUCTION, STD. ASST., ACADEMIC YR., EDUCATION	110801
113001000000	CENTRAL ADMIN. EQUIPMENT, EDUCATION	110801
121011020000	INSTRUCTION, SALARIES, ACADEMIC YEAR, ELEMENTARY ED.	110802
121011030000	INSTRUCTION, SALARIES, ACADEMIC YEAR, SECONDARY ED.	110803
123011560000	SPECIAL VISITING LECTURER EXPENSE P.E..	110835
121030950000	INSTRUCTION, SALARIES, ACADEMIC YEAR, BUSINESS EDUCATION	110838
113001400000	CENTRAL ADMIN. EQUIPMENT, ENGINEERING	110901
121052000000	INSTRUCTION, STD. ASST., ACADEMIC YR., GENERAL ENGINEERING	110901
123011400000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, ENGINEERING	110901
123011510000	SPECIAL VISITING LECTURER EXPENSE, ART	111002
123011550000	SPECIAL VISITING LECTURER EXPENSE, MUSIC	111004
123011520000	SPECIAL VISITING LECTURER EXPENSE, DRAMA	111007
123011300000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, FOR. LANG.	111101
123011530000	SPECIAL VISITING LECTURER EXPENSE, HEALTH SCIENCE	111201
123011540000	SPECIAL VISITING LECTURER EXPENSE, HOME ECON.	111301
123011280000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, ENGLISH	111501
121052180000	INSTRUCTION, STD. ASST., ACADEMIC YR., ENGLISH	111501
123011290000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, SPEECH	111506
123021240000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, PHILOSOPHY	111509
123041380000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, RELIGIOUS STUDIES	111510
121062230000	INSTRUCTION, TEMP HELP, ACADEMIC YR. MATHEMATICS	111701
121062220000	INSTRUCTION, TEMP HELP, ACADEMIC YR. PHYSICS	111902
121062240000	INSTRUCTION, TEMP HELP, ACADEMIC YR. CHEMISTRY	111905
121062250000	INSTRUCTION, TEMP HELP, ACADEMIC YR. GEOLOGY	111914
121031010000	INSTRUCTION, SALARIES, ACADEMIC YEAR, PSYCH. GENERAL	112001
123011260000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, PSYCHOLOGY	112001
121031210000	INSTRUCTION, SALARIES, ACADEMIC YEAR, ANTHROPOLOGY	112202
121052110000	INSTRUCTION, STD. ASST., ACADEMIC YR., ANTHROPOLOGY	112202
121041230000	INSTRUCTION, SALARIES, ACADEMIC YEAR, HISTORY	112205
121031220000	INSTRUCTION, SALARIES, ACADEMIC YEAR, GEOGRAPHY	112206
123011250000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, POL. SCIENCE	112207
121052170000	INSTRUCTION, STD. ASST., ACADEMIC YR., SOCIOLOGY	112208
123031270000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, SOCIOLOGY	112208
123031370000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, MET. AMER. STUDIES	112213
171057420910	INSTRUCTION SALARIES, SUMMER SESSION, ACCOUNTING	120502
171057420930	INSTRUCTION SALARIES, SUMMER SESSION, FINANCE	120504

171057420940	INSTRUCTION SALARIES, SUMMER SESSION, MARKETING	120509
171057420920	INSTRUCTION SALARIES, SUMMER SESSION, ECONOMICS	120517
171057421000	INSTRUCTION SALARIES, SUMMER SESSION, GENERAL ED.	120801
171057421400	INSTRUCTION SALARIES, SUMMER SESSION, ENGINEERING	120901
171057421280	INSTRUCTION SALARIES, SUMMER SESSION, ENGLISH	121501
171057421320	INSTRUCTION SALARIES, SUMMER SESSION, PHYSICS	121902
171057421340	INSTRUCTION SALARIES, SUMMER SESSION, CHEMISTRY	121905
171057421260	INSTRUCTION SALARIES, SUMMER SESSION, PSYCHOLOGY	122001
171057421270	INSTRUCTION SALARIES, SUMMER SESSION, SOCIOLOGY	122208
701071000000	INSTRUCTION, EXTENSION EVENING DEGREE PROG., SALARIES, ED.	130801
702071330000	INSTRUCTION, EXT. EVE. DEGREE PROG., OPER. EXP., MATH	131701
702071340000	INSTRUCTION, EXT. EVE. DEGREE PROG., OPER. EXP., CHEMISTRY	131905
702071350000	INSTRUCTION, EXT. EVE. DEGREE PROG., OPER. EXP., GEOLOGY	131914
121052180000	INSTRUCTION SALARIES, SPECIAL PROGRAMS, ENGLISH	141501
122052180000	INSTRUCTION, SPECIAL PROGRAMS, OPER. EXP., ENGLISH	141501
195043000000	EDUCATIONAL MATERIALS RESEARCH INSTITUTE	210800
195043000000	EDUCATIONAL MATERIALS RESEARCH INSTITUTE	210800
195042000000	ENGINEERING RESEARCH CENTER GRANT	210950
161829020600	RESEARCH SALARIES INSTITUTION GRANT NO. 257 SMITH	220502
161829020700	RESEARCH SALARIES INSTITUTION GRANT NO. 258 JONES	220901
161829020800	RESEARCH SALARIES INSTITUTION GRANT NO. 268 COOPER	221501
161829020900	RESEARCH SALARIES INSTITUTION GRANT NO. 269 MARKS	221905
181010910000	CONTINUING EDUCATION SALARIES, ACCOUNTING	310502
181010920000	CONTINUING EDUCATION SALARIES, ECONOMICS	310517
181010920000	CONTINUING EDUCATION SALARIES, ECONOMICS	310517
181041290000	CONTINUING EDUCATION SALARIES, ENGLISH	311501
181041290000	CONTINUING EDUCATION SALARIES, ENGLISH	311501
181021010000	CONTINUING EDUCATION SALARIES, PSYCHOLOGY	312001
181021010000	CONTINUING EDUCATION SALARIES, PSYCHOLOGY	312001
183001400000	EXTENSION EQUIPMENT, ENGINEERING	320901
183001300000	EXTENSION EQUIPMENT, FOREIGN LANGUAGE	321101
702071000000	EXTENSION PUBLIC LECTURES, OPER. EXP.	330000
701071000000	EXTENSION PUBLIC LECTURES, HONORARIUMS	330000
603010020000	STOREFRONT COLLEGE, EQUIPMENT	340000
602010020000	STOREFRONT COLLEGE, OPER. EXP.	340000
601010020000	STOREFRONT COLLEGE, SALARIES	340000
112010990000	URBAN AFFAIR CENTER, OPER. EXP.	342214
111010990000	URBAN AFFAIRS CENTER, SALARIES	342214
122019880000	AG. EXTENSION, OP. EXP.	350000
121019890000	AG. EXTENSION, SALARIES	350000
122094900000	AG. EXTENSION RURAL DEV. CTR. OP. EXP.	356700
113004030000	CENTRAL ADMIN. EQUIPMENT, LIBRARY	410000
112165030000	CENTRAL ADMIN. TRAVEL, LIBRARY	410000
131010504000	LIBRARY, PROCESSING SERVICES	410000
132600000000	LIBRARY, BOOKS	410000
131015050000	LIBRARY, PUBLIC SERVICES	410000
131015030000	LIBRARY, ADMINISTRATION	410000
133000000000	LIBRARY, EQUIPMENT	410000
132610000000	LIBRARY, PERIODICALS	410000
161821810000	DEPARTMENTAL LIBRARY EXPENSES, BUSINESS	410500
161821820000	DEPARTMENTAL LIBRARY EXPENSES, ECONOMICS	410517
161822000000	DEPARTMENTAL LIBRARY EXPENSE ENGINEERING	410900
161822230000	DEPARTMENTAL LIBRARY EXPENSE MATHEMATICS	411700
161822220000	DEPARTMENTAL LIBRARY EXPENSE PHYSICS	411902
161822240000	DEPARTMENTAL LIBRARY EXPENSE CHEMISTRY	411905
161822180000	DEPARTMENTAL LIBRARY EXPENSE PSYCHOLOGY	412000
141005050000	ART GALLERY, SALARIES	420000

143005050000	ART GALLERY, EQUIPMENT	420000
143000000000	ART GALLERY, ACQUISITIONS	420000
132101000000	ART GALLERY OPERATING EXPENSE	420000
112164720000	CENTRAL ADMIN. TRAVEL, AUDIO VISUAL	430000
122447300000	EDUCATION AUDIO VISUAL CENTER SALARIES	430000
122447100000	EDUCATION AUDIO VISUAL CENTER EQUIPMENT	430000
122444760000	EDUCATION, AUDIO VISUAL CENTER INSTRUCTIONAL AIDS	430000
122444750000	EDUCATION, AUDIO VISUAL CENTER RENTALS	430000
122444740000	EDUCATION, AUDIO VISUAL CENTER, MAINTENANCE	430000
122444730000	EDUCATION, AUDIO VISUAL CENTER, TEACHER TRAINING MATERIALS	430800
113000320000	CENTRAL ADMIN., ACAD. COMPUTER CTR., MAINTENANCE	440000
113000320000	CENTRAL ADMIN., ACAD. COMPUTER CTR., EQUIPMENT	440000
113000320000	CENTRAL ADMIN., ACAD. COMPUTER CTR., SUPPLIES	440000
111010320000	CENTRAL ADMIN., ACAD. COMPUTER CTR., SALARIES	440000
122822015200	EDUCATION, ENGINEERING COMP. CTR., OPER. EXP	440900
121822015200	EDUCATION, ENGINEERING COMP. CTR., SALARIES	440900
123822015200	EDUCATION, ENGINEERING COMP. CTR., EQUIPMENT	440900
111001000000	EDUCATION, LAB. SCHOOL, SALARIES	450800
112001000000	EDUCATION, LAB. SCHOOL, OPER. EXP	450800
113010000000	EDUCATION, LAB. SCHOOL, EQUIPMENT	450800
112165330000	CENTRAL ADMIN. TRAVEL, STUDENT ACTIVITIES	517110
141025330000	STUDENT SERVICES SALARIES, STUDENT ACTIVITIES	517110
122431000000	SPECIAL LECTURES EXPENSE	517120
122430000000	SPECIAL TUTORIAL EXPENSE	520000
113005340000	CENTRAL ADMIN. EQUIPMENT, STUDENT COUNSELING	530000
112165360000	CENTRAL ADMIN. TRAVEL, PLACEMENTS	530000
141045340000	STUDENT SERVICES SALARIES, COUNSELING AND TESTING	530000
141035360000	STUDENT SERVICES SALARIES, PLACEMENTS	530000
112165720000	CENTRAL ADMIN. TRAVEL, HEALTH SERVICES	537320
112110220000	CENTRAL ADMIN. SUPPLIES, FINANCIAL AIDS	540000
161820170000	STUDENT FINANCIAL AIDS, PROPERTY	540000
161820160000	STUDENT FINANCIAL AIDS, SWITCHBOARD	540000
161820150000	STUDENT FINANCIAL AIDS, PURCHASING	540000
161820140000	STUDENT FINANCIAL AIDS, SALARIES	540000
141025720000	STUDENT SERVICES SALARIES, HEALTH SERVICES	557320
142345728000	STUDENT SERVICES, HEALTH SERVICES, PSYCHIATRIC COUNSELING	557320
142345725000	STUDENT SERVICES, HEALTH SERVICES, X-RAYS	557320
142345722000	STUDENT SERVICES, HEALTH SERVICES, DRUGS	557320
142345721000	STUDENT SERVICES, HEALTH SERVICES, SUPPLIES	557320
402010000000	STUDENT HOUSING OPERATING EXPENSE	557330
401010000000	STUDENT HOUSING SALARIES	557330
141035370000	STUDENT SERVICES SALARIES, FOREIGN STUDENTS PROGRAM	557420
112160020000	CENTRAL ADMIN. TRAVEL, PRESIDENT	618110
112110051000	CENTRAL ADMIN. SUPPLIES, ADVISORY BOARD	618110
112110030000	CENTRAL ADMIN. SUPPLIES, ADMIN. V.P.	618110
112110020000	CENTRAL ADMIN. SUPPLIES, PRESIDENT	618110
112220020000	CENTRAL ADMIN. COMMUNICATIONS, PRESIDENT	618110
112250020000	CENTRAL ADMIN. POSTAGE, PRESIDENT	618110
113000020000	CENTRAL ADMIN. EQUIPMENT, PRESIDENT	618110
111010020000	CENTRAL ADMIN. SALARIES, EXECUTIVE	618110
113000840000	CENTRAL ADMIN. EQUIPMENT, FACULTY PRES.	618120
112160840000	CENTRAL ADMIN. TRAVEL, FACULTY PRES.	618120
112110130000	CENTRAL ADMIN. SUPPLIES, ACCOUNTING	628210
113000130000	CENTRAL ADMIN. EQUIPMENT, ACCOUNTING	628210
112220130000	CENTRAL ADMIN. COMMUNICATIONS, ACCOUNTING	628210
111020130000	CENTRAL ADMIN. SALARIES, ACCOUNTING	628210
112020320000	CENTRAL ADMIN. OPERATING EXPENSES, E.D.P.	638160
112220320000	CENTRAL ADMIN. COMMUNICATIONS, E.D.P.	638160

112160020000	CENTRAL ADMIN. TRAVEL, E.D.P.	638160
112150040000	CENTRAL ADMIN. PRINTING, ADMISSIONS	638220
141045350000	STUDENT SERVICES SALARIES, ADMISSIONS AND RECORDS	638220
112040210000	CENTRAL ADMIN. OPERATING EXPENSES, PERSONNEL	638230
112110021000	CENTRAL ADMIN. SUPPLIES, PERSONNEL	638230
112220210000	CENTRAL ADMIN. COMMUNICATIONS, PERSONNEL	638230
502010020000	FACULTY PARKING, OPERATING EXPENSE	648160
501010020000	FACULTY PARKING, SALARIES	648160
153005860000	PLANT OPERATIONS, EQUIPMENT, SECURITY	648170
112110190000	CENTRAL ADMIN. SUPPLIES, RECEIVING	648240
112030190000	CENTRAL ADMIN. OPERATING EXPENSES, RECEIVING	648240
112010200000	CENTRAL ADMIN. OPERATING EXPENSES, DUPLICATING	648250
112110180000	CENTRAL ADMIN. SUPPLIES, MAILROOM	648250
112110160000	CENTRAL ADMIN. SUPPLIES, SWITCHBOARD	648250
113030180000	CENTRAL ADMIN. EQUIPMENT, MAILROOM	648250
113040160000	CENTRAL ADMIN. EQUIPMENT, SWITCHBOARD	648250
153005840000	PLANT OPERATIONS, EQUIPMENT, VEHICLE OPERATION	648260
502110010000	STUDENT PARKING OPERATING EXPENSE	648260
501010000000	STUDENT PARKING SALARIES	648260
153005820000	PLANT OPERATIONS, EQUIPMENT, ADMINISTRATION	650000
152740000000	PLANT OPERATIONS, UTILITIES	658310
153005830000	PLANT OPERATIONS, EQUIPMENT, MAINTENANCE OF BLDG.	658320
153005832000	PLANT OPERATIONS, EQUIPMENT, BUILDING TRADE	658320
153005850000	PLANT OPERATIONS, EQUIPMENT, GROUNDS	658330
153005831000	PLANT OPERATIONS, EQUIPMENT, CUSTODIAL	658340
402010020000	FACULTY RESIDENCE, OPERATING EXPENSE	667330
401010020000	FACULTY RESIDENCE, SALARIES	667330
111050040000	PUBLIC RELATIONS, SALARIES	678180
172850210000	DEVONSHIRE DOWNS, MAINTENANCE	719701
172850110000	DEVONSHIRE DOWNS, UTILITIES	719701
702081660000	PUBLIC HOUSING AGENCY	729800
END OF DATA		

<u>Account Number</u>	<u>Description</u>	<u>PCS No.</u>
111001000000	EDUCATION, LAB. SCHOOL, SALARIES	450800
111010020000	CENTRAL ADMIN. SALARIES, EXECUTIVE	618110
111010320000	CENTRAL ADMIN., ACAD. COMPUTER CTR., SALARIES	440000
111010990000	URBAN AFFAIRS CENTER, SALARIES	342214
111020130000	CENTRAL ADMIN. SALARIES, ACCOUNTING	624210
111050040000	PUBLIC RELATIONS, SALARIES	678180
112001000000	EDUCATION, LAB. SCHOOL, OPER. EXP	450800
112010200000	CENTRAL ADMIN. OPERATING EXPENSES, DUPLICATING	648250
112010990000	URBAN AFFAIR CENTER, OPER. EXP.	342214
112020320000	CENTRAL ADMIN. OPERATING EXPENSES, E.D.P.	638160
112030190000	CENTRAL ADMIN. OPERATING EXPENSES, RECEIVING	648240
112040210000	CENTRAL ADMIN. OPERATING EXPENSES, PERSONNEL	638230
112110020000	CENTRAL ADMIN. SUPPLIES, PRESIDENT	618110
112110021000	CENTRAL ADMIN. SUPPLIES, PERSONNEL	638230
112110030000	CENTRAL ADMIN. SUPPLIES, ADMIN. V.P.	618110
112110051000	CENTRAL ADMIN. SUPPLIES, ADVISORY BOARD	618110
112110130000	CENTRAL ADMIN. SUPPLIES, ACCOUNTING	628210
112110160000	CENTRAL ADMIN. SUPPLIES, SWITCHBOARD	648250
112110180000	CENTRAL ADMIN. SUPPLIES, MAILROOM	648250
112110190000	CENTRAL ADMIN. SUPPLIES, RECEIVING	648240
112110220000	CENTRAL ADMIN. SUPPLIES, FINANCIAL AIDS	540000
112150040000	CENTRAL ADMIN. PRINTING, ADMISSIONS	638220
112160020000	CENTRAL ADMIN. TRAVEL, E.D.P.	638160
112160020000	CENTRAL ADMIN. TRAVEL, PRESIDENT	618110
112160840000	CENTRAL ADMIN. TRAVEL, FACULTY PRES.	618120
112164720000	CENTRAL ADMIN. TRAVEL, AUDIO VISUAL	430000
112165030000	CENTRAL ADMIN. TRAVEL, LIBRARY	410000
112165330000	CENTRAL ADMIN. TRAVEL, STUDENT ACTIVITIES	517110
112165360000	CENTRAL ADMIN. TRAVEL, PLACEMENTS	530000
112165720000	CENTRAL ADMIN. TRAVEL, HEALTH SERVICES	537320
112200200000	CENTRAL ADMIN. COMMUNICATIONS, PRESIDENT	618110
112201300000	CENTRAL ADMIN. COMMUNICATIONS, ACCOUNTING	628210
112202100000	CENTRAL ADMIN. COMMUNICATIONS, PERSONNEL	638230
112203200000	CENTRAL ADMIN. COMMUNICATIONS, E.D.P.	638160
112250020000	CENTRAL ADMIN. POSTAGE, PRESIDENT	618110
113000020000	CENTRAL ADMIN. EQUIPMENT, PRESIDENT	618110
113000130000	CENTRAL ADMIN. EQUIPMENT, ACCOUNTING	628210
113000320000	CENTRAL ADMIN., ACAD. COMPUTER CTR., SUPPLIES	440000
113000320000	CENTRAL ADMIN., ACAD. COMPUTER CTR., EQUIPMENT	440000
113000320000	CENTRAL ADMIN., ACAD. COMPUTER CTR., MAINTENANCE	440000
113000840000	CENTRAL ADMIN. EQUIPMENT, FACULTY PRES.	618120
113001000000	EDUCATION, LAB. SCHOOL, EQUIPMENT	450800
113001000000	CENTRAL ADMIN. EQUIPMENT, EDUCATION	110801
113001400000	CENTRAL ADMIN. EQUIPMENT, ENGINEERING	110901
113005030000	CENTRAL ADMIN. EQUIPMENT, LIBRARY	410000
113005340000	CENTRAL ADMIN. EQUIPMENT, STUDENT COUNSELING	530000
113030180000	CENTRAL ADMIN. EQUIPMENT, MAILROOM	648250
113040160000	CENTRAL ADMIN. EQUIPMENT, SWITCHBOARD	648250
121010910000	INSTRUCTION, SALARIES, ACADEMIC YEAR, ACCOUNTING	110502
121010920000	INSTRUCTION, SALARIES, ACADEMIC YEAR, ECONOMICS	110517
121011020000	INSTRUCTION, SALARIES, ACADEMIC YEAR, ELEMENTARY ED.	110802
121011030000	INSTRUCTION, SALARIES, ACADEMIC YEAR, SECONDARY ED.	110803
121019890000	AG. EXTENSION, SALARIES	350000
121020930000	INSTRUCTION, SALARIES, ACADEMIC YEAR, FINANCE	110504
121030950000	INSTRUCTION, SALARIES, ACADEMIC YEAR, BUSINESS EDUCATION	110838
121031010000	INSTRUCTION, SALARIES, ACADEMIC YEAR, PSYCH. GENERAL	112001
121031210000	INSTRUCTION, SALARIES, ACADEMIC YEAR, ANTHROPOLOGY	112202
121031220000	INSTRUCTION, SALARIES, ACADEMIC YEAR, GEOGRAPHY	112206

121040940000	INSTRUCTION, SALARIES, ACADEMIC YEAR, MARKETING	110509
121040960000	INSTRUCTION, SALARIES, ACADEMIC YEAR, MANAGEMENT	110506
121041230000	INSTRUCTION, SALARIES, ACADEMIC YEAR, HISTORY	112205
121051900000	INSTRUCTION, STD. ASST., ACADEMIC YR., EDUCATION	110801
121052000000	INSTRUCTION, STD. ASST., ACADEMIC YR., GENERAL ENGINEERING	110901
121052110000	INSTRUCTION, STD. ASST., ACADEMIC YR., ANTHROPOLOGY	112202
121052170000	INSTRUCTION, STD. ASST., ACADEMIC YR., SOCIOLOGY	112208
121052180000	INSTRUCTION, STD. ASST., ACADEMIC YR., ENGLISH	111501
121052180000	INSTRUCTION SALARIES, SPECIAL PROGRAMS, ENGLISH	141501
121062210000	INSTRUCTION, TEMP HELP, ACADEMIC YR. BIOLOGY	110401
121062220000	INSTRUCTION, TEMP HELP, ACADEMIC YR. PHYSICS	111902
121062230000	INSTRUCTION, TEMP HELP, ACADEMIC YR. MATHEMATICS	111701
121062240000	INSTRUCTION, TEMP HELP, ACADEMIC YR. CHEMISTRY	111905
121062250000	INSTRUCTION, TEMP HELP, ACADEMIC YR. GEOLOGY	111914
121822015200	EDUCATION, ENGINEERING COMP. CTR., SALARIES	440900
122010531810	INSTRUCTION, OPERATING EXP. E.D.P., ACCOUNTING	100502
122010531820	INSTRUCTION, OPERATING EXP. E.D.P., ECONOMICS	100517
122010531830	INSTRUCTION, OPERATING EXP. E.D.P., FINANCE	100504
122010531840	INSTRUCTION, OPERATING EXP. E.D.P., MARKETING	100509
122010531860	INSTRUCTION, OPERATING EXP. E.D.P., MANAGEMENT	100506
122010531900	INSTRUCTION, OPERATING EXP. E.D.P., GENERAL EDUCATION	100801
122010532000	INSTRUCTION, OPERATING EXP. E.D.P., GENERAL ENGINEERING	100901
122010532150	INSTRUCTION, OPERATING EXP. E.D.P., POLITICAL SCIENCE	102207
122010532160	INSTRUCTION, OPERATING EXP. E.D.P., PSYCHOLOGY	102001
122010532210	INSTRUCTION, OPERATING EXP. E.D.P., BIOLOGY	100401
122010532220	INSTRUCTION, OPERATING EXP. E.D.P., PHYSICS	101902
122010532230	INSTRUCTION, OPERATING EXP. E.D.P., MATHEMATICS	101701
122010532240	INSTRUCTION, OPERATING EXP. E.D.P., CHEMISTRY	101905
122010532250	INSTRUCTION, OPERATING EXP. E.D.P., GEOLOGY	101914
122019880000	AG. EXTENSION, OP. EXP.	350000
122052180000	INSTRUCTION, SPECIAL PROGRAMS, OPER. EXP., ENGLISH	141501
122058900000	AG. EXTENSION RURAL DEV. CTR. OP. EXP.	356700
122430000000	SPECIAL TUTORIAL EXPENSE	520000
122431000000	SPECIAL LECTURES EXPENSE	517120
122444730000	EDUCATION, AUDIO VISUAL CENTER, TEACHER TRAINING MATERIALS	430800
122444740000	EDUCATION, AUDIO VISUAL CENTER, MAINTENANCE	430000
122444750000	EDUCATION, AUDIO VISUAL CENTER RENTALS	430000
122444760000	EDUCATION, AUDIO VISUAL CENTER INSTRUCTIONAL AIDS	430000
122447100000	EDUCATION AUDIO VISUAL CENTER EQUIPMENT	430000
122447300000	EDUCATION AUDIO VISUAL CENTER SALARIES	430000
122822015200	EDUCATION, ENGINEERING COMP. CTR., OPER. EXP	440900
123011250000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, POL. SCIENCE	112207
123011260000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, PSYCHOLOGY	112001
123011280000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, ENGLISH	111501
123011290000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, SPEECH	111506
123011300000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, FOR. LANG.	111101
123011400000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, ENGINEERING	110901
123011510000	SPECIAL VISITING LECTURER EXPENSE, ART	111002
123011520000	SPECIAL VISITING LECTURER EXPENSE, DRAMA	111007
123011530000	SPECIAL VISITING LECTURER EXPENSE, HEALTH SCIENCE	111201
123011540000	SPECIAL VISITING LECTURER EXPENSE, HOME ECON.	111301
123011550000	SPECIAL VISITING LECTURER EXPENSE, MUSIC	111004
123011560000	SPECIAL VISITING LECTURER EXPENSE P.E.	110835
123011570000	SPECIAL VISITING LECTURER EXPENSE, JOURNALISM	110602
123021240000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, PHILOSOPHY	111509
123021360000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, AFRO STUDIES	110305
123031270000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, SOCIOLOGY	112208

123031370000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, MET. AMER. STUDIES	112213
123041380000	INSTRUCTION, EQUIPMENT, ACADEMIC YEAR, RELIGIOUS STUDIES	111510
123822015200	EDUCATION, ENGINEERING COMP. CTR., EQUIPMENT	440900
131010504000	LIBRARY, PROCESSING SERVICES	410000
131015030000	LIBRARY, ADMINISTRATION	410000
131015050000	LIBRARY, PUBLIC SERVICES	410000
132101090000	ART GALLERY OPERATING EXPENSE	420000
132600000000	LIBRARY, BOOKS	410000
132610000000	LIBRARY, PERIODICALS	410000
133000000000	LIBRARY, EQUIPMENT	410000
141005050000	ART GALLERY, SALARIES	420000
141025330000	STUDENT SERVICES SALARIES, STUDENT ACTIVITIES	517110
141025720000	STUDENT SERVICES SALARIES, HEALTH SERVICES	557320
141035360000	STUDENT SERVICES SALARIES, PLACEMENTS	530000
141035370000	STUDENT SERVICES SALARIES, FOREIGN STUDENTS PROGRAM	557420
141045340000	STUDENT SERVICES SALARIES, COUNSELING AND TESTING	530000
141045350000	STUDENT SERVICES SALARIES, ADMISSIONS AND RECORDS	638220
142345721000	STUDENT SERVICES, HEALTH SERVICES, SUPPLIES	557320
142345722000	STUDENT SERVICES, HEALTH SERVICES, DRUGS	557320
142345725000	STUDENT SERVICES, HEALTH SERVICES, X-RAYS	557320
142345728000	STUDENT SERVICES, HEALTH SERVICES, PSYCHIATRIC COUNSELING	557320
143000000000	ART GALLERY, ACQUISITIONS	420000
143005050000	ART GALLERY, EQUIPMENT	420000
152740000000	PLANT OPERATIONS, UTILITIES	658310
153005820000	PLANT OPERATIONS, EQUIPMENT, ADMINISTRATION	650000
153005830000	PLANT OPERATIONS, EQUIPMENT, MAINTENANCE OF BLDG.	658320
153005831000	PLANT OPERATIONS, EQUIPMENT, CUSTODIAL	658340
153005832000	PLANT OPERATIONS, EQUIPMENT, BUILDING TRADE	658320
153005840000	PLANT OPERATIONS, EQUIPMENT, VEHICLE OPERATION	648260
153005850000	PLANT OPERATIONS, EQUIPMENT, GROUNDS	658330
153005860000	PLANT OPERATIONS, EQUIPMENT, SECURITY	648170
161820140000	STUDENT FINANCIAL AIDS, SALARIES	540000
161820150000	STUDENT FINANCIAL AIDS, PURCHASING	540000
161820160000	STUDENT FINANCIAL AIDS, SWITCHBOARD	540000
161820170000	STUDENT FINANCIAL AIDS, PROPERTY	540000
161821810000	DEPARTMENTAL LIBRARY EXPENSES, BUSINESS	410500
161821820000	DEPARTMENTAL LIBRARY EXPENSES, ECONOMICS	410517
161822000000	DEPARTMENTAL LIBRARY EXPENSE ENGINEERING	410900
161822180000	DEPARTMENTAL LIBRARY EXPENSE PSYCHOLOGY	412000
161822220000	DEPARTMENTAL LIBRARY EXPENSE PHYSICS	411902
161822230000	DEPARTMENTAL LIBRARY EXPENSE MATHEMATICS	411700
161822240000	DEPARTMENTAL LIBRARY EXPENSE CHEMISTRY	411905
161829020600	RESEARCH SALARIES INSTITUTION GRANT NO. 257 SMITH	220502
161829020700	RESEARCH SALARIES INSTITUTION GRANT NO. 258 JONES	220901
161829020800	RESEARCH SALARIES INSTITUTION GRANT NO. 268 COOPER	221501
161829020900	RESEARCH SALARIES INSTITUTION GRANT NO. 269 MARKS	221905
171057420910	INSTRUCTION SALARIES, SUMMER SESSION, ACCOUNTING	120502
171057420920	INSTRUCTION SALARIES, SUMMER SESSION, ECONOMICS	120517
171057420930	INSTRUCTION SALARIES, SUMMER SESSION, FINANCE	120504
171057420940	INSTRUCTION SALARIES, SUMMER SESSION, MARKETING	120509
171057421000	INSTRUCTION SALARIES, SUMMER SESSION, GENERAL ED.	120801
171057421260	INSTRUCTION SALARIES, SUMMER SESSION, PSYCHOLOGY	122001
171057421270	INSTRUCTION SALARIES, SUMMER SESSION, SOCIOLOGY	122208
171057421280	INSTRUCTION SALARIES, SUMMER SESSION, ENGLISH	121501
171057421320	INSTRUCTION SALARIES, SUMMER SESSION, PHYSICS	121902
171057421340	INSTRUCTION SALARIES, SUMMER SESSION, CHEMISTRY	121905
171057421400	INSTRUCTION SALARIES, SUMMER SESSION, ENGINEERING	120901
172850110000	DEVONSHIRE DOWNS, UTILITIES	719701

172850210000	DEVONSHIRE DOWNS, MAINTENANCE	719701
181010910000	CONTINUING EDUCATION SALARIES, ACCOUNTING	310502
181010920000	CONTINUING EDUCATION SALARIES, ECONOMICS	310517
181010920000	CONTINUING EDUCATION SALARIES, ECONOMICS	310517
181021010000	CONTINUING EDUCATION SALARIES, PSYCHOLOGY	312001
181021010000	CONTINUING EDUCATION SALARIES, PSYCHOLOGY	312001
181041290000	CONTINUING EDUCATION SALARIES, ENGLISH	311501
181041290000	CONTINUING EDUCATION SALARIES, ENGLISH	311501
183001300000	EXTENSION EQUIPMENT, FOREIGN LANGUAGE	321101
183001400000	EXTENSION EQUIPMENT, ENGINEERING	320901
195042000000	ENGINEERING RESEARCH CENTER GRANT	210900
195043000000	EDUCATIONAL MATERIALS RESEARCH INSTITUTE	210800
195043000000	EDUCATIONAL MATERIALS RESEARCH INSTITUTE	210800
401010000000	STUDENT HOUSING SALARIES	557330
401010020000	FACULTY RESIDENCE, SALARIES	667330
402010000000	STUDENT HOUSING OPERATING EXPENSE	557330
402010020000	FACULTY RESIDENCE, OPERATING EXPENSE	667330
501010000000	STUDENT PARKING SALARIES	648260
501010020000	FACULTY PARKING, SALARIES	648160
502010020000	FACULTY PARKING, OPERATING EXPENSE	648160
502110010000	STUDENT PARKING OPERATING EXPENSE	648260
601010020000	STOREFRONT COLLEGE, SALARIES	340000
602010020000	STOREFRONT COLLEGE, OPER. EXP.	340000
603010020000	STOREFRONT COLLEGE, EQUIPMENT	340000
701071000000	EXTENSION PUBLIC LECTURES, HONORARIUMS	330000
701071000000	INSTRUCTION, EXTENSION EVENING DEGREE PROG., SALARIES, ED.	130801
702071000000	EXTENSION PUBLIC LECTURES, OPER. EXP.	330000
702071330000	INSTRUCTION, EXT. EVE. DEGREE PROG., OPER. EXP., MATH	131701
702071340000	INSTRUCTION, EXT. EVE. DEGREE PROG., OPER. EXP., CHEMISTRY	131905
702071350000	INSTRUCTION, EXT. EVE. DEGREE PROG., OPER. EXP., GEOLOGY	131914
702081660000	PUBLIC HOUSING AGENCY	729800
END OF DATA		

REFERENCES

1. Charles B. Johnson and William G. Katsenmeyer, eds., Management Information Systems in Higher Education: The State of the Art (Durham, North Carolina: Duke University Press, 1969). And Robert A. Huff, ed., Focus on MIS (Boulder, Colorado: Western Interstate Commission for Higher Education, October 1969).
2. James Farmer, Why Planning, Programming, Budgeting Systems for Higher Education (Boulder, Colorado: Western Interstate Commission for Higher Education, 1970).
3. Ralph E. Tyler, "The Changing Structure of American Institutions of Higher Education," in The Economics and Financing of Higher Education in the United States, A compendium of papers submitted to the Joint Economic Committee, Congress of the United States, (Washington, D. C.: USGPO).
4. Charles B. Johnson and William G. Katsenmeyer, eds., Management Information Systems in Higher Education: The State of the Art (Durham, North Carolina: Duke University Press, 1969).
5. Edwin W. Beach, "California's Programming and Budgeting System", in Innovations in Planning, Programming, and Budgeting in State and Local Governments, A compendium of papers submitted to the Sub-Committee on Economy in Government of Joint Economic Committee. Congress of the United States (Washington, D. C.: USGPO, 1969).
6. Werner Z. Hirsh, "Education in the Program Budget," in David Novick, Program Budgeting, Program Analysis, and the Federal Budget (Cambridge, Massachusetts: Harvard University Press, 1969).
7. Farmer, Why Planning.
8. Harry Williams, Planning for Effective Resource Allocation in Universities (Washington, D. C.: American Council on Education, 1966).
9. Peter Szanton, "The Present and Future of PPBS, Status and Plan," in Robert L. Chartrand, Kenneth Janda, and Michael Hugo, eds., Information Support, Program Budgeting, and the Congress (New York: Sarnatan Books, 1968).
10. Harry J. Hartley, Educational Planning - Programming - Budgeting: A Systems Approach (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1968).
11. Williams, Planning for Effective.
12. A. R. Prest, and R. Turvey, "Cost Benefit Analysis: A Survey," The Economic Journal 75 (December 1965).

13. John E. Keller, "The Uses of Models in University Decision-Making," Unpublished monograph (The University of California, Office of the Vice President/Planning and Analysis, November 1967).
14. Robert Campbell, "Approaches to the Analysis of the Demand for Higher Education: A Tool for Educational Planning," in Richard H.P. Kraft, Strategies of Educational Planning (Florida State University, 1969).

M.B. Carpenter and M.L. Rapp, "The Analysis of Effectiveness," in S.A. Haggart, et. al., Program Budgeting for School District Planning: Concepts and Applications (The Rand Corporation, November 1969).

Joseph Froomkin, "Cost/Effectiveness and Cost/Benefit Analysis of Educational Programs," in Socio-Economic Planning Sciences (Pergamon Press, Vol. 2, Nos. 2/3/4, April 1969).

Paul W. Hamelman, "Cost/Effectiveness Analysis for University Planning," (A paper prepared for the 31st National Meeting of the Operations Research Society of America, New York: June 1969).

Robert Pavese, "Program Budgeting in Higher Education," in Harry J. Hartley, Educational Planning-Programming-Budgeting (Prentice-Hall, Inc., 1968).
15. Charles J. Hitch, "What are the Programs and Program Planning in Budgeting," Sumner N. LaVine, ed., Socio-Economic Planning Sciences Vol. 1, Nos. 2,3,4 (Oxford, England: Pergamon Press, April 1969).
16. The Economics and Financing of Higher Education in the United States, A compendium of papers submitted to the Joint Economic Committee, Congress of the United States (Washington, D.C.,: USGPO).
17. Frederick S. Hillier and Gerald J. Libermann, Introduction to Operations Research (San Francisco: Holden, Day Inc., 1968) p. 15.
18. Keller, The Uses of Models.
19. George Weathersby, "Development and Applications of a University Cost Simulation Model," An unpublished monograph (University of California, Berkeley: Office of Analytical Studies, June 15, 1967).
20. E.L. Phillips, Jr., New Approach to Academic Administration (Columbia University, New York: Teacher's College Press, 1969).

21. Management Information Systems Program, Objectives and Guidelines of the WICHE Management Information Systems Program (Boulder, Colorado: Western Interstate Commission for Higher Education, 1969).
22. Ben Lawrence, Compatible Management Information Systems, Technical Report #1 (Boulder, Colorado: Western Interstate Commission for Higher Education, May 1969).
23. A.E. Joyal, The Costs of Higher Education in 1960-1975 (Sacramento, California: Committee on the Regents of the University of California and the State Board of Education, 1960).
24. Irene H. Butter, Economics of Graduate Education: An Exploratory Study (Washington, D.C.: United States Office of Education, 1966).
25. William G. Bowen, "Economic Pressures on the Major Private Universities," in The Economics and Financing of Higher Education in the United States, A compendium of papers submitted to the Joint Economic Committee (Washington, D.C.: Congress of the United States, USGPO, 1969).
26. Management Information Systems Program, Phase II: Objectives and Time Schedule of the WICHE Management Information Systems Program (Boulder, Colorado: Western Interstate Commission for Higher Education, May 1969).
27. Charles R. Thomas, Data Element Dictionary: Course, 1st ed. (Boulder, Colorado: Western Interstate Commission for Higher Education, February 1970).
28. Charles R. Thomas, Data Element Dictionary: Students, 1st ed. (Boulder, Colorado: Western Interstate Commission for Higher Education, February 1970).
29. Richard W. Judy, "Systems Analysis for Efficient Resource Allocation in Higher Education," in Minter and Lawrence, eds., Management Information Systems: Their Development and Use in the Administration of Higher Education (Boulder, Colorado: Western Interstate Commission for Higher Education, October 1969).
30. H.E. Koenig, M.G. Keeney, and R. Zemach, Systems Analysis and Planning in University Administration (East Lansing: Michigan State University, Division of Engineering Research, 1967).
31. Melvin Ashen, "The Program Budget in Operation," in David Novick, ed., Program Budgeting (Cambridge, Massachusetts: Harvard University Press, 1965).

32. John E. Keller, "Higher Education Objectives: Measures of Performance and Effectiveness," in John Minter and Ben Lawrence, eds., Management Information Systems: Their Development and Use in the Administration of Higher Education (Boulder, Colorado: Western Interstate Commission for Higher Education, October 1969).
33. Hartley, Educational Planning.
34. S. M. Barro, "Development of Program Structure," in Haggart, et. al., Program Budgeting for School District Planning: Concepts and Applications (Santa Monica, California: The Rand Corporation, November 1969).
35. Bureau of the Budget, Bulletin No. 68-9 (Washington, D. C.: USGPO, April 1968).
36. Robert A. Huff and James Farmer, "Faculty Activities Contributing to the Instructional Function of Higher Education" An unpublished report to the WICHE MIS Steering Committee (January 12, 1970).
37. U. S. Department of Agriculture, Federal Extension Service, EMIS Data Definition Document, Fiscal Year 1971, July 1, 1970 - June 30, 1971 (Washington, D. C.: USGPO, 1969).
38. Ibid. Section 4.
39. Ibid.
40. Ibid.
41. Ibid.
42. Ibid.
43. Francis F. Martin, Computer Modeling and Simulation (New York: John Wiley & Sons, 1968).
44. Glossary for Systems Analysis and Planning - Programming - Budgeting, (Washington, D. C.: United States General Accounting Office, October 1969).

65:GM:770:GD:JoP:2BA8
(rev1)